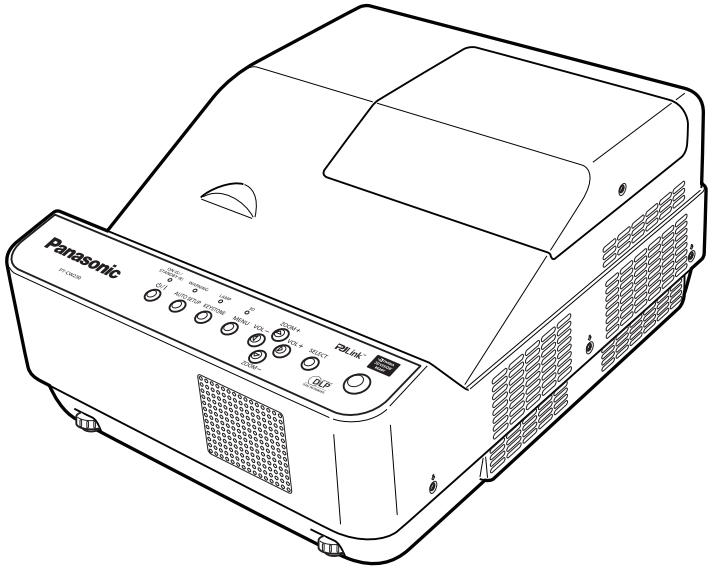
ORDER NO. VED1204418CE

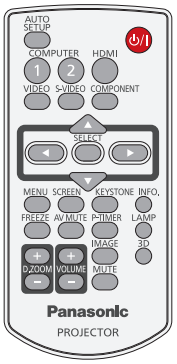
D10

Service Manual

DLP™ Based Projector

Model No. **PT-CW230U**
PT-CW230E
PT-CW230EA
PT-CX200U
PT-CX200E
PT-CX200EA





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Safety Instructions

The service technician is required to read and follow the “Safety Precautions” and “Important Safety Notice” in this service manual.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It dose not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

WARNING : Use UV Radiation eye and skin protection during servicing

CAUTION

Precaution

If using of this projector at high altitudes (above 1,200m),“Fan Control” to “ON1” or “ON2”.
(Refer to “Setting menu” in Operating Instructions.)
Failure to observe this may cause malfunctions. Never use this projector at an altitude of 2,700m or higher.
Using this projector at high altitude, consult your dealer or Authorized Service Center about preparations.

About lead free solder (PbF)

This projector is using the P.C.Board which applies lead free solder.
Use lead free solder in servicing from the standpoint of antipollution for the global environment.
Notes:

- Lead free solder: Sn-Ag-Cu (tin, silver and copper) has a higher melting point (approx. 217°C) than standard solder. Typically the melting point
- is 30~40 °C higher. When servicing, use a high temperature soldering iron with temperature limitation function and set it to 370 ± 10 °C.
- Be precautious about lead free solder. Sn-Ag-Cu (tin, silver and copper) will tend to splash when heated too high (approx. 600°C or higher).
- Use lead free solder for the P.C.Board (specified on it as “PbF”) which uses lead free solder. (When you unavoidably use lead solder, use lead
- solder after removing lead free solder. Or be sure to heat the lead free solder until it melts completely, before applying lead solder.)
- After soldering to double layered P.C.Boards, check the component side for excess solder which may flow onto the opposite side.

About the identification of the lead free solder P.C.Board.
For the P.C.Board which applies lead free solder, the symbol as shown in the figure below is printed or stamped on the surface or the back of P.C.Board.

For US

IMPORTANT SAFETY NOTICE

There are special parts used in Panasonic Projectors which are important for safety. These parts are shaded on the schematic diagram. It is essential that these critical parts should be replaced with manufacturer’s specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of PANASONIC SOLUTIONS COMPANY.

WARNING:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment dose cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, The user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION : Any unauthorized changes or modifications to this equipment will void the user’s authority to operate this device.

Safety precautions

1.1. General Guidelines

- For continued safety, no modification of any circuit must be attempted.
- Unplug the power cord from the power outlet before disassembling this projector.
- Use correctly the supplied power cord and must ground it.
- It is advisable to use an isolation transformer in the AC power line before the service.
- Be careful not to touch the rotation part (cooling fan, etc.) of this projector when you service with the upper case removed and the power supply turned ON.
- Observe the original lead dress during the service. If a short circuit is found, replace all the parts overheated or damaged by the short circuit.
- After the service, all the protective devices such as insulation barriers, insulation papers, shields, and isolation R-C combinations must be properly installed.
- After the service, check the leakage current to prevent the customer from getting an electric shock.

1.2. Leakage Current Check

1. Prepare the measuring circuit as shown in Fig.1.
   Be sure to use a voltmeter having the performance described in Table 1.
2. Assemble the circuit as shown in Fig. 2. Plug the power cord in a power outlet.
3. Connect M1 to T1 according to Fig. 2 and measure the voltage.
4. Change the connection of M1 from T1 to T2 and measure the voltage again.
5. The voltmeter must read 0.375 V or lower in both of steps 3 and 4. This means that the current must be 0.75mA or less.
6. If the reading is out of the above standard, the projector must be repaired and rechecked before returning to the customer because of a possibility of an electric shock.

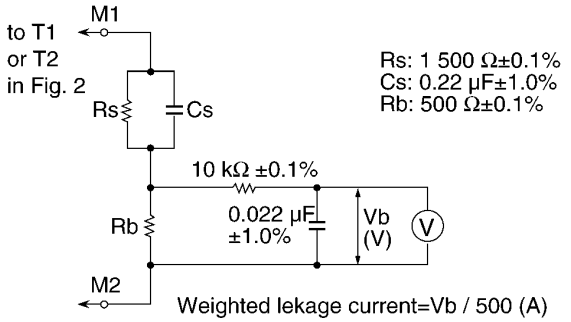


Fig. 1

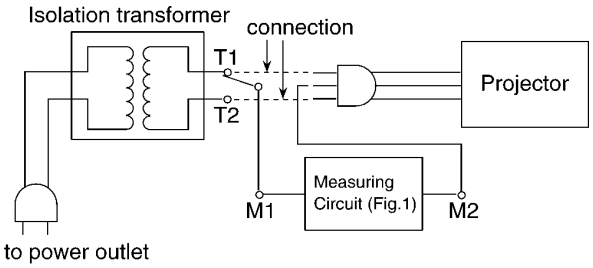


Fig. 2

	Performance
Voltmeter (rms reading)	Accuracy: ≤ 2% Input resistance: ≥ 1 MΩ Input capacitance: ≤ 200 pF Frequency range: 15 Hz to 1 MHz

Table. 2

1.3. UV Precaution and UHM Lamp Precautions

- Be sure to unplug the power cord from the power outlet when replacing the lamp.
- Because the lamp reaches a very high temperature during its operation, wait until it cools completely when replacing the Lamp Unit.
- The lamp emits small amounts of UV-radiation, avoid direct-eye contact with the light.
- The lamp unit has high internal pressure. If improperly handled, explosion might result.
- Because the high pressure lamp involves a risk of failure, never touch the lamp wire lead during the service.

Specifications

Model No.		PT-CW230U/E/EA	PT-CX200U/E/EA
Power supply		AC100 V - 240 V 50 Hz/60 Hz	
Power consumption		100 V - 240 V 4.5 A-2.2 A, 350 W	
		When [Standby mode] of [Setting] is set to [ECO]: 0.45 W	
		When [Standby mode] of [Setting] is set to [Network]: 11.0 W	
DLP chip	Size	0.65"(aspect ratio 16 : 10)	0.55"(aspect ratio 4 : 3)
	Display System	One-unit DLP chip, DLP type	
	Number of pixels	1 024 000 pixels (1 280 x 800 dots)	786 432 pixels (1 024 x 768 dots)
Lens		Manual focus F 2.5, f 4.83 mm	
Luminous lamp		275 W UHM lamp	
Light output *1		2500 lm	2000 lm
Applicable scanning frequency *2	for RGB signal	Horizontal 15 kHz to 93 kHz, Vertical 50 Hz to 120 Hz	
		Dot clock frequency: 150 MHz or less	
	for YP_BP_R signal	[525i(480i)] Horizontal 15.75 kHz, Vertical 60 Hz [525p(480p)] Horizontal 31.5 kHz, Vertical 60 Hz [750(720)/60p] Horizontal 45 kHz, Vertical 60 Hz [1125(1080)/60i] Horizontal 33.75 kHz, Vertical 60 Hz [625i(576i)] Horizontal 15.63 kHz, Vertical 50 Hz [625p(576p)] Horizontal 31.25 kHz, Vertical 50 Hz [750(720)/50p] Horizontal 37.5 kHz, Vertical 50 Hz [1125(1080)50i] Horizontal 28.13 kHz, Vertical 50 Hz • HD/SYNC and V terminals are not compliant with 3 value composite SYNC	
	for Video signal (including S-video)	Horizontal 15.75 kHz / 15.63 kHz, Vertical 50 Hz / 60 Hz	
	for HDMI signal	525p(480p), 625p(576p), 750(720)/60p, 750(720)/50p, 1125(1080)/60p, 1125(1080)/50p, 1125(1080)/60i, 1125(1080)/50i • Displayable resolution: VGA to WUXGA (non-interlace) • Dot clock frequency: up to 162 MHz	
Color system		7 (NTSC, NTSC4.43, PAL, PAL-N, PAL-M, SECAM, PAL60)	
Projection size		1.524 m -2.794 m (60"-110")	1.397 m -2.286 m (55"-90")
Screen aspect ratio		16 : 10	4 : 3
Projection scheme		Ceiling/floor, front/rear, vertical upwards/downwards	
Speaker		1 (3.7 cm round-type)	
Maximum usable volume output		10W	
Contrast ratio *1		2000 : 1 (all white / all black)	

*1 : Measurement, measuring conditions and method of notation all comply with ISO21118 international standards.

*2 : For details of video signals that can be projected using this projector, refer to “List of compatible signals”.

Specifications

Model No.		PT-CW230U/E/EA	PT-CX200U/E/EA
Terminals	COMPUTER 1 IN/ COMPONENT IN	1 (D-sub 15 pin female) [RGB signal] 0.7 V [p-p] 75 Ω (When G-SYNC: 1.0 [p-p] 75 Ω HD/SYNC TTL high impedance, automatic positive/negative polarity compatible VD TTL high impedance, automatic positive/negative polarity compatible [YP_BP_R signal] Y: 1.0 V [p-p] including synchronization signal, P_BP_R: 0.7 V [p-p] 75 Ω	
	COMPUTER 2 IN/ MONITOR OUT	[RGB signal] 0.7 V [p-p] 75 Ω (When G-SYNC: 1.0 [p-p] 75 Ω HD/SYNC TTL high impedance, automatic positive/negative polarity compatible VD TTL high impedance, automatic positive/negative polarity compatible	
	VIDEO IN	1 (RCA pin jack 1.0 V [p-p] 75 Ω)	
	S-VIDEO IN	1 (Mini DIN 4 pin, Y 1.0 V [p-p], C 0.286 V [p-p] 75 Ω, S1 signal compatible)	
	HDMI IN	1 (HDMI 19 pin, HDCP and Deep color compatible)	
	AUDIO IN	2 (M3 stereo mini jack, 0.5 V [rms], input impedance 22 kΩ and more) 1 (RCA pin jack x 2 (L-R), 0.5 V [rms], input impedance 22 kΩ and more)	
	AUDIO OUT	1 (M3 stereo mini jack, stereo monitor output compatible, 0 V [rms] to 2.0 V [rms] valuable, output impedance 2.2 kΩ and less)	
	SERIAL IN	1 (D-sub 9 pin, RS-232C compliant, for computer control use	
	LAN	1 (for RJ-45 network connection, PJLink compatible,)	
Power cable length		3.0 m(9.8")	
Cabinet		Molded plastic	
Dimensions		Width: 321 mm (12.6") Height: 178 mm (7.01") (when front adjustable feet shortened) Depth: 386 mm (15.2")	
Weight		Approx.6.2 kg(13.67 lbs.) *3	
Operating environment		Operating environment temperature: 0 °C (32 °F) to 40 °C (104 °F) Operating environment humidity: 20 % to 80 % (no condensation)	
Remote control	Power supply	DC 3 V (battery (AAA/R03 or AAA/LR03 Type) x 2)	
	Operating range	Approx. 5 m (196.9") (when operated directly on top of receptor)	
	Weight	67 g (2.36 ozs.) (including batteries)	
	Dimensions	Width : 52 mm (2.05"), Length : 110 mm (4.33"), Height : 18 mm (0.71")	

*3 : This is an average value. It may differ depending on individual product.

● The part numbers of accessories and separately sold components are subject to change without notice.

Circuit Protections

This projector provides the following circuit protections to operate in safety. If the abnormality occurs inside the projector, it will automatically turn off by operating one of the following protection circuits.

Thermal fuse(SW902)

There is the thermal fuse (SW902) inside of the projector to detect the internal temperature rising abnormally. When the internal temperature reaches near 128˚C, the thermal fuse opens to cut off the power to the power circuit.
If the thermal fuse opens,the projector cannot turn on.
Thermal fuse replacement is required.

Lamp cover switch (SW901)

The lamp cover switch (SW901) cuts off the drive signal to the lamp circuit when the lamp cover is removed or not closed completely. After opening the lamp cover for replacing the lamp ass'y, place the lamp cover correctly otherwise the projector can not turn on.

Fuse (F601)

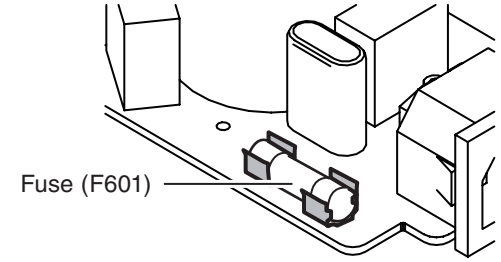
A fuse is located inside of the projector. When the ON(G)/STANDBY(R) indicator is not lighting, the fuse may be opened. Check the fuse as following steps.
The fuse should be used with the type listed right;

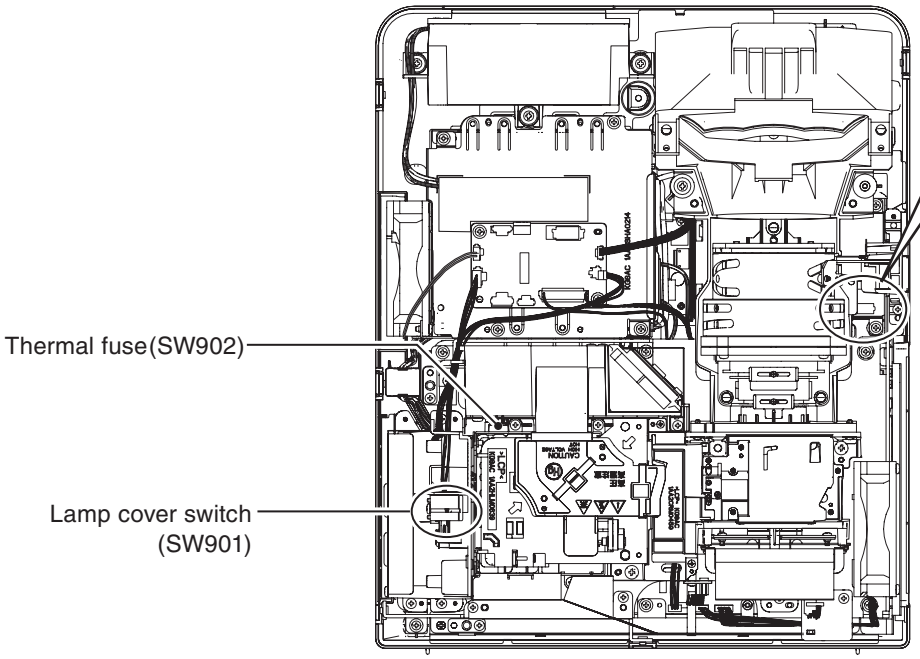
How to replace the fuse

1. The fuse is placed on the line filter board behind the optical unit. Remove the cabinet top.
2. Take the fuse off from the filter board, and replace the new one with the specified type.

Fuse Part No.: 323 025 1204
TYPE 8A 250V FUSE
LITTEL FUSE INC. TYPE 215008

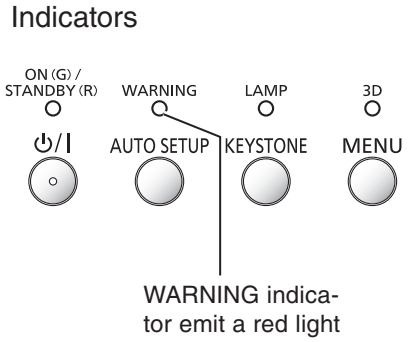
Check the fuse mounting condition
Make sure that the fuse is mounted at the two clips of the fuse holder firmly.





Warning temperature and power failure protection

The projector will be automatically turned off when the internal temperature of the projector is abnormally high, or the cooling fans stop spinning, or the power supplies in the projector are failed.



The projector is shut down and the WARNING indicator is blinking red.

When the temperature inside the projector reaches a certain level, the projector will be automatically shut down to protect the inside of the projector and the WARNING and ON(G)/STANDBY(R) indicators start blinking. When the projector has cooled down enough (to its normal operating temperature), the ON(G)/STANDBY(R) indicator stops blinking and lights red, The projector can be turned on again by pressing the ⏻/| button.

✔ **Note:**
The WARNING indicator continues to blink even after the temperature inside the projector returns to normal. When the projector is turned on again, the WARNING indicator stops blinking.

Check items
- Remove dust around the air filter unit.
- Ventilation slots of the projector are blocked. In such an event, reposition the projector so that ventilation slots are not obstructed.
- Check if projector is used at higher temperature place (Normal operating temperature is 0 ˚C to 40 ˚C or 32 ˚F to 104 ˚F)

The projector is shut down and the WARNING indicator lights red.

When the projector detects an abnormal condition, it is automatically shut down to protect the inside of the projector and the WARNING indicator lights red. In this case, unplug the AC power cord and reconnect it, and then turn the projector on once again to verify operation.

- If the WARNING TEMP. indicator lights red, it may defect the cooling fans or power supply circuits. Check fans operation and power supply lines referring to the chapter “Power supply & protection circuit” in the Chassis Block Diagram section.

WARNING
DO NOT LEAVE THE PROJECTOR WITH THE AC POWER CORD CONNECTED UNDER AN ABNORMAL CONDITION. IT MAY RESULT IN FIRE OR ELECTRIC SHOCK.

Maintenance

Before replacing the unit

When you perform maintenance or replacement of the parts, make sure to turn off the power and disconnect the power plug from the wall outlet.

Maintenance

■ Outer Case

Wipe off dirt and dust using a soft dry cloth.

- If the dirt is persistent, soak the cloth with water and wring it thoroughly before wiping. Dry off the projector with a dry cloth.
- Do not use benzene, thinner, or rubbing alcohol, other solvents, household cleaners, or chemical treated dusters. Using them may cause deterioration of the outer case.

■ Glass surface of the projection window.

Wipe off the dirt and dust off the surface of the projection window with soft clean cloth.

- Do not use a cloth that has an abrasive surface or a cloth that is moist, oily, or covered with dust.
- Do not use excessive force when wiping the projection window as it is fragile.

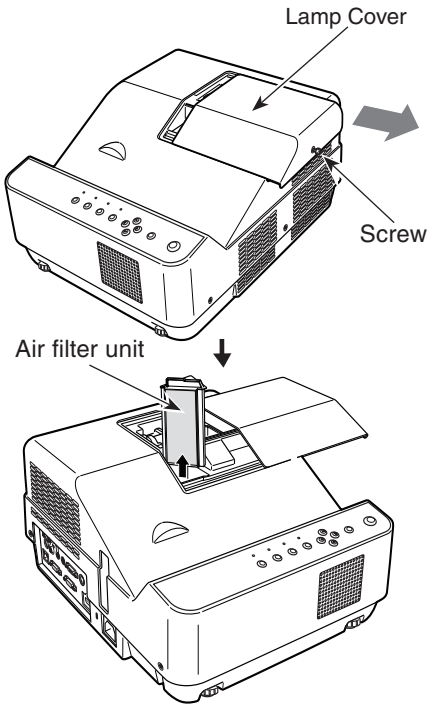
Attention

- The projection window is fragile. Impacts or excessive force when wiping may scratch its surface. Please handle with care.

Replacing the filter

■ Air filter unit

Filter prevents dust from accumulating on the optical elements inside the projector.Should the filter become clogged with dust particles, it will reduce cooling fans' effectiveness and may result in internal heat buildup and adversely affect the life of the projector. If a "Filter warning" icon appears on the screen, replace the filter unit immediately.



■ Replacement of the air filter unit

1) Open the lamp cover.

- First, turn off the projector and unplug the AC power cord from the AC outlet. Then, clean up the dust on the projector and around the air vents. At last, loosen the screw and open the lamp cover.

2) Remove the air filter unit.

- Lift the air filter unit out of the projector.

3) Insert a new air filter unit.

- Insert a new air filter unit back into the position.

4) Close the lamp cover.

- Close the lamp cover and secure the screw.

Replacement air filter unit: ET-RFC100

Resetting the filter counter

Be sure to reset the Filter counter after replacing the air filter unit.

1) Press ▲▼ to select [Filter counter reset].
2) Press <SELECT> button.
[Filter counter Reset?] appears. Select [Yes] to continue.
Another confirmation dialog box appears, select [Yes]
to reset the filter counter.

Attention

- Turn off the power before you replace the air filter unit.
- When attaching the air filter unit, make sure that the projector is stable, and work in an environment that is safe, even in the event of the air filter unit dropping.
- Do not operate the projector with the filter removed. Dust may accumulate on the optical elements degrading picture quality.
- Do not put anything into the air ports. Doing so may result in malfunction of the projector.
- The air filter unit to be replaced should be an unused product.

Lamp unit

The lamp unit is a consumable component. You can check the total usage time using Lamp runtime in the Information menu.
It is recommended to ask an authorized engineer to replace the lamp unit. Contact your dealer.
Consult your dealer to purchase a replacement lamp unit.

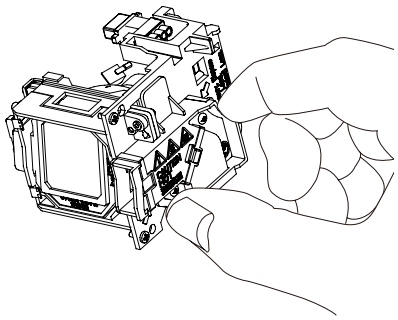
Replacement lamp unit:ET-LAC100

CAUTION:

■ **Do not replace the lamp unit when it is hot. (Wait at least 1 hour after use.)**
The inside of the cover can become very hot, take care to avoid burn injuries.

Notes on the replacement of the lamp unit

- The luminous source of the lamp is made of glass and may burst if you hit it against a hard surface or drop it.Please handle with care.
- A Phillips screwdriver is required for replacement of the lamp unit.
- When replacing the lamp unit, be sure to hold it by the handle.
- When replacing the lamp because it has stopped illuminating, there is a possibility that the lamp may be broken. If replacing the lamp of a projector which has been installed on the ceiling, you should always assume that the lamp is broken, and you should stand to the side of the lamp cover, not underneath it. Open the lamp cover gently. Small pieces of glass may fall out when the lamp cover is opened. If pieces of glass get into your eyes or mouth, seek medical advice immediately.
- The lamp contains mercury. Consult your local municipality or your dealer about correct disposal of used lamp units.



Attention

- Do not use other than designated lamp units.
- The part numbers of accessories and separately sold components are subject to change without notice.

When to replace the lamp unit

The lamp unit is a consumable component. Brightness decreases according to duration of usage, so periodical replacement of the lamp unit is necessary.
When the projection lamp of the projector reaches its end of life, the Lamp replacement icon appears on the screen and <LAMP> indicator lights yellow. Replace the lamp with a new one promptly.

Lamp runtime	On screen Lamp replacement icon	LAMP indicator
Over 2000 hours	The message is displayed for 4 seconds. If you press any button within 4 seconds, the message disappears.	Lights in yellow (even in stand-by mode).

*2000 hours of use is a rough guideline, but is not a guarantee. The lamp runtime differs depending on the setting of "Lamp power" menu.

Note

- The Lamp replacement icon will not appear when the [Display] function is set to [Off] , or during "Freeze" , or "AV mute" .

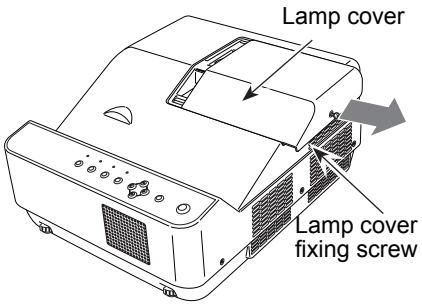
Replacing the lamp unit

CAUTION:

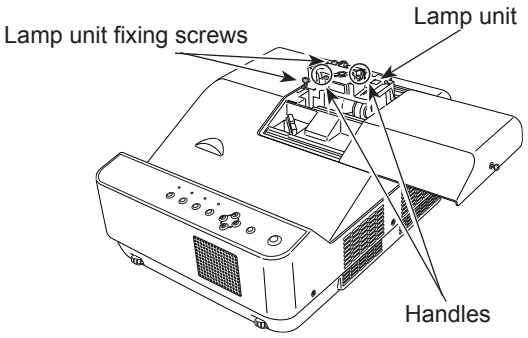
- When the projector is mounted on a ceiling, do not work with your face close to the projector.
- Attach the lamp unit and the lamp cover securely.
- When you experience difficulty in installing the lamp, remove it and try again. If you use force to install the lamp, the connector may be damaged.

1) Turn off the Power.
Unplug the AC power cord.
Wait at least 1 hour and make sure the lamp unit and surroundings are cool.

2) Use a Phillips screwdriver to loosen the lamp cover fixing screw and open the lamp cover.
- Open the lamp cover by pulling it slowly toward the direction of the arrow.



3) Use a Phillips screwdriver to loosen the two lamp unit fixing screws until the screws turn freely. Hold the used lamp unit by its handles, and pull it gently from the projector.



4) Insert the new lamp unit in correct direction. Tighten the two lamp unit fixing screws securely with a Phillips screwdriver.

5) Close the lamp cover, and tighten the lamp cover fixing screw securely with a Phillips screwdriver.
- Close the lamp cover by pushing it slowly opposite the direction of the arrow.

■ Resetting the lamp runtime

Be sure to reset the [Lamp runtime] after replacing the lamp unit.

1) Press ▲▼ to select [Lamp runtime reset].
2) Press <SELECT> button.
[Lamp runtime Reset?] appears. Select [Yes] to continue. Another confirmation dialog box appears, select [Yes] to reset the Lamp runtime.

Attention

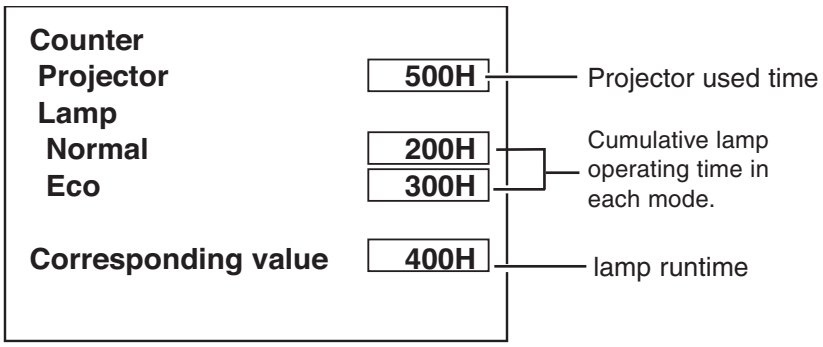
- When the lamp runtime is elapsed the estimated duration, [Lamp runtime] will be displayed in red and the lamp replacement icon will appear on the screen, indicating that the end of lamp life is reached. When replacing the lamp unit, reset the lamp runtime.

How to check lamp runtime

The LAMP indicator will light yellow when the lamp runtime (Corresponding value) reaches 2,000 hours. This is to indicate that lamp replacement is required. The lamp runtime is calculated by using the below expression.
Lamp runtime (Corresponding value) = **T**normal + **T**eco x 0.67

Tnormal : used time in the normal mode
Teco : used time in the eco mode

You can check the lamp runtime following to the below procedure.
1 Press and hold the ⏻/I button on the projector or the remote control for more than 20 seconds.
2 The projector used time and lamp runtime will be displayed on the screen briefly as follows.



Cleaning

After long periods of use, dust and other particles will accumulate on the optical parts, mirror, color wheel, lens etc.,causing the picture to darken or color to blur. If this occurs, remove dust and other particles using air spray. Beforetaking the cleaning, turn off the projector and allow the projector to cool for more than 60 minutes. Never disassemblethe optical unit, mirror or projection lens because those parts are aligned preciously in the factory . If do so,the projector may have the miss-alignment in optical and reduce the optical performance.

Cleaning the color wheel

- The color wheel is made of thin glass. Be very careful when handing the color wheel.
- In case of fingerprints, etc. on the surface, gently wipe with a Cleaning Cloth for optical parts that contains a small amount of non-abrasive camera lens cleaner to clean the surface.
- Do not use detergents as this could cause peeling of the color filter.

Cleaning the reflecting mirror

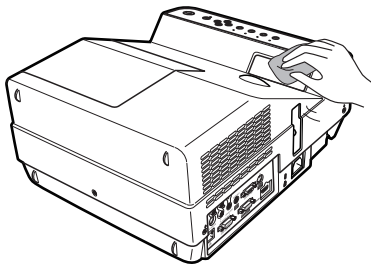
- Be careful not to touch the reflecting mirror. Touching it directly with the hands may cause reducing the burnishing.
- Do not clean other than with air.

Caution

The optical components may have a crack or spot when you use the air spray directly to the optical components while they are in the state of hot. Use a commercial (inert gas) air spray designed for cleaning camera and computer equipment. Use a resin-based nozzle only. Be very careful not to damage optical parts with the nozzle tip.

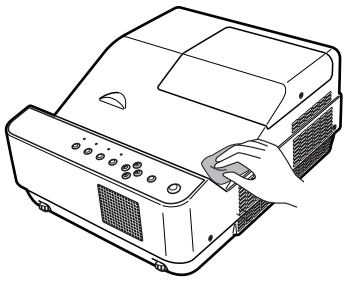
Cleaning the projection window

Unplug the AC power cord before cleaning.
First, remove the dust with a commercially available air blower.
Then gently wipe the projection window surface. Use a cleaning paper moistened with methyl alcohol (methanol).
Avoid using an excessive amount of cleaner.
Do not use abrasive cleaners, solvents, or other harsh chemical cleaners to avoid damaging the projection window.



Cleaning the projector cabinet

Unplug the AC power cord before cleaning.
Gently wipe the projector body with a soft dry cleaning cloth.
When the cabinet is heavily soiled, use a small amount of mild detergent and finish with a soft dry cleaning cloth. Avoid using an excessive amount of cleaner. Abrasive cleaners, solvents, or other harsh chemicals might scratch the surface of the cabinet.
When the projector is not in use, put the projector in an appropriate carrying case to protect it from dust and scratches.



CAUTION
Do not use any flammable solvents or air sprays on the projector and in its vicinity. The explosion or fire hazard mayoccur even after the AC power cord is unplugged because the temperature inside the projector is extremely high due to the lamps. In addition, there is a risk that the internal parts may be damaged not only by the flammable air spray but also by the cold air.

Security Function Notice

This projector provides security functions such as "Key lock", "PIN code lock" and "Logo PIN code lock". When the projector has set these security function on, you are required to enter correct PIN code to use the projector. If you do not know the correct PIN code to the projector, the projector can no longer be operated or started. In this case, you must reset those function first according to the resetting procedure described below and then check up on the projector.

Function	Description
Key lock	Locks operation of the top control or the remote control. If the Key lock is enabled with top control lock, the projector can no longer be started. Initial setting: Key lock function is disabled
PIN code lock	Prevents the projector from being operated by an unauthorized person. Initial code: “1234”
Logo PIN code lock	Prevents an unauthorized person for changing the start-up logo on the screen. Initial code: “4321”

Resetting procedure

1 Disconnect the AC power cord from the AC outlet.
2 As pressing the **SELECT** button, connect the AC power cord into an AC outlet again.
3 Keep pressing the **SELECT** button and then press the ⏻/I button.
4 Release the ⏻/I button first and then release the **SELECT** button.

- The PIN code lock and Logo PIN code lock will be reset as the initial PIN code at the factory and the Key lock function is disabled.

Please refer to the owner's manual for further information of the security functions.

Standby Mode Notice

This projector provides 2 types of standby mode, Eco standby and Network standby. According to the standby mode "Eco" or "Network", several functions are restricted as shown in the table below. To change the standby mode, use the projector's menu "Setting".

Network .....Supply the power to the network function even after turning off the projector. You can turn on /off the projector via network, modify network environment, and receive an e-mail about projector status while the projector is powered off.

Eco .....Select "Eco" when you do not use the projector via network. The projector's network function will stop when turning off the projector.

When "Eco" is selected, several functions will be restricted.

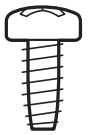
Restricted Function in the standby mode

Function	Eco	Network
Serial command control	✓*1	✓
Network Function	--	✓
Monitor Out	--	✓
Audio Out	--	--
Direct On	✓	✓

*1 Effective only power-on command.

Mechanical Disassembly

Mechanical disassembly should be made following procedures in numerical order.
Following steps show the basic procedures, therefore unnecessary step may be ignored.
Caution:
The parts and screws should be placed exactly the same position as the original otherwise it may cause loss of performance and product safety.

Screws expression (Type Diameter x Length) mm	
T type	M type
	

1 Cabinet top removal

1. Remove 8 screws A(M3x8) to remove the cabinet top assy upward off.

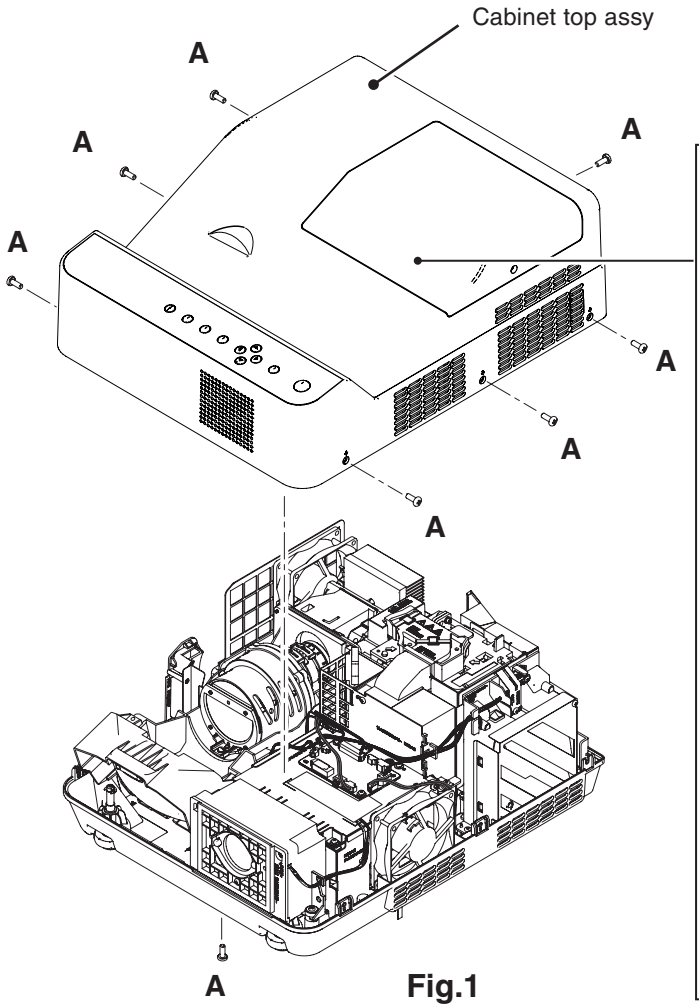
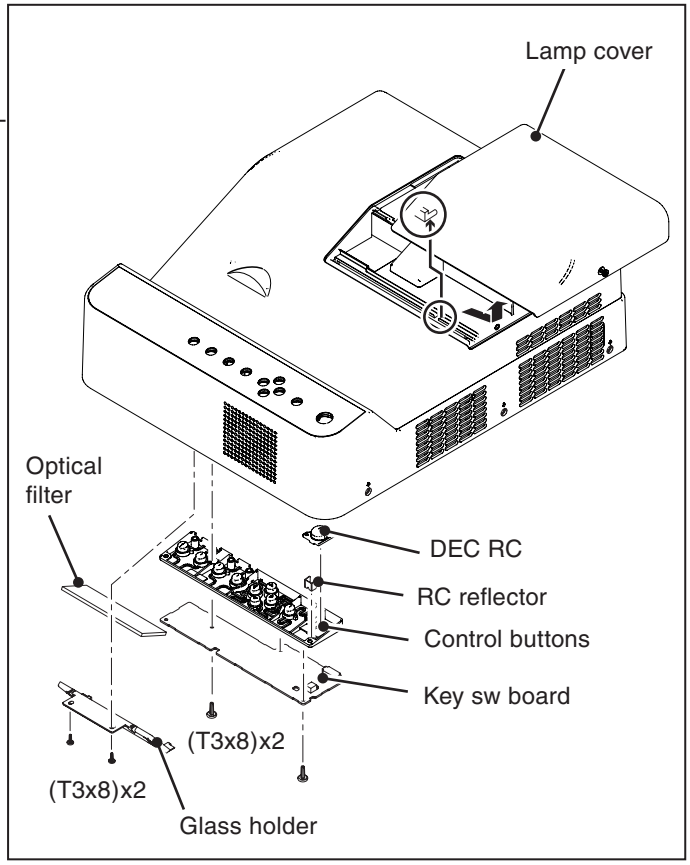


Fig.1



2 Optical unit lamp and CW removal

1. Loosen 2 screws A and pull the lamp assy upward off.
2. Remove 1 screw B(M2.5x6) to remove the temp sensor 2 board.
3. Remove 1 screw C(T3x12)x2 and 2 screws D (M4x8) to remove the optical unit upward off.

* To remove the screws, use the precision screw driver .

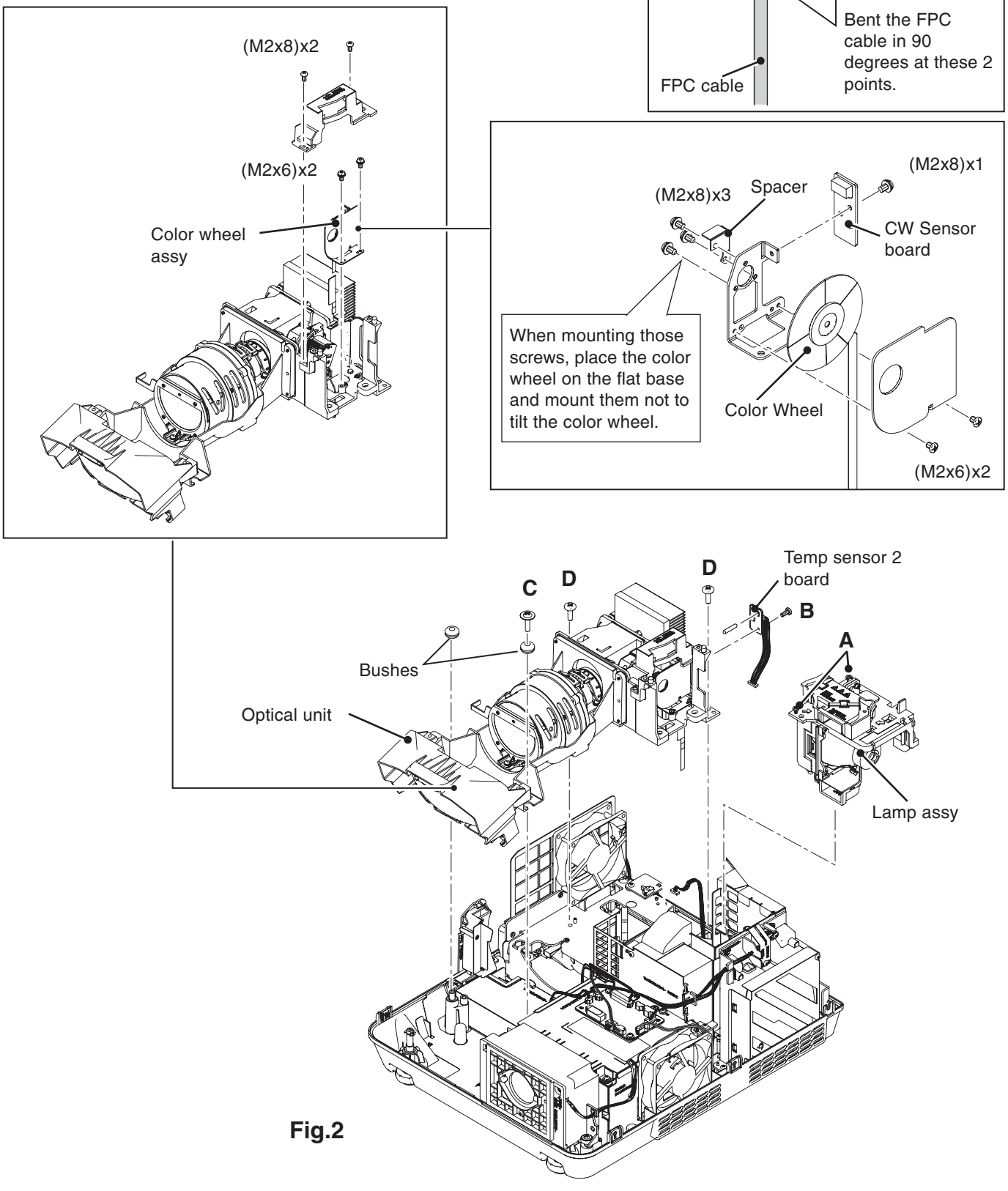


Fig.2

3 Fans (FN902, FN903, FN904), SW901, speaker removal

1. Remove 3 screws A(T3x8) to remove the exhaust fan assy.
2. Remove 2 screws B(M3x6) to remove the fan duct assy.
3. Remove 3 screws C(T3x12) to remove the speaker box.

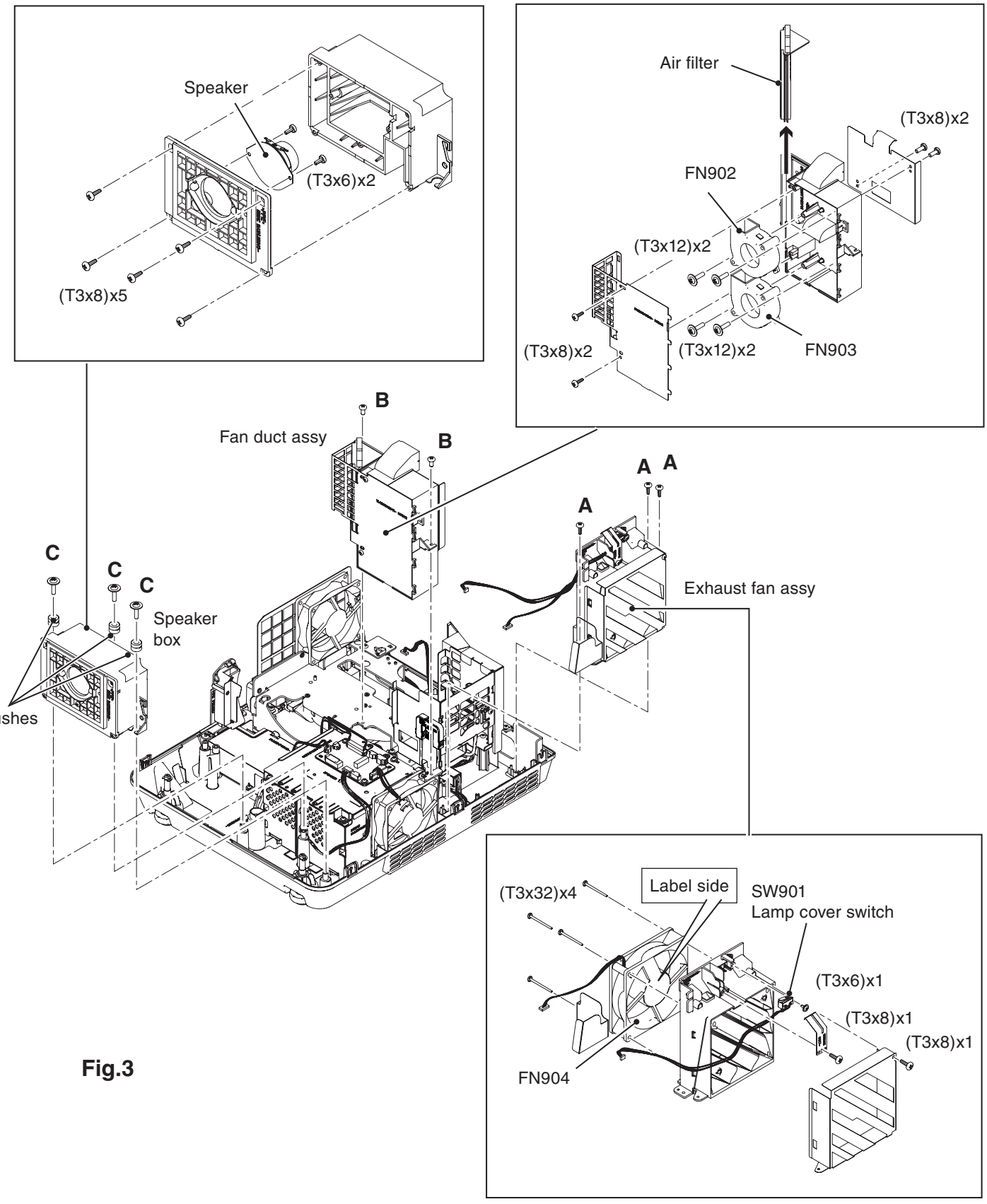


Fig.3

4 Power and fannet board and fan(FN905) removal

1. Remove 2 screws A(M3x8) to remove the fannet board.
2. Remove 4 screws B(M3x8) to remove the power box cover.
3. Remove 2 screws C(M3x8) and 1 screw D(M3x8) to remove the power board and insulation sheet.
4. Remove 4 screws E(M3x8) to remove the power box frame assy.

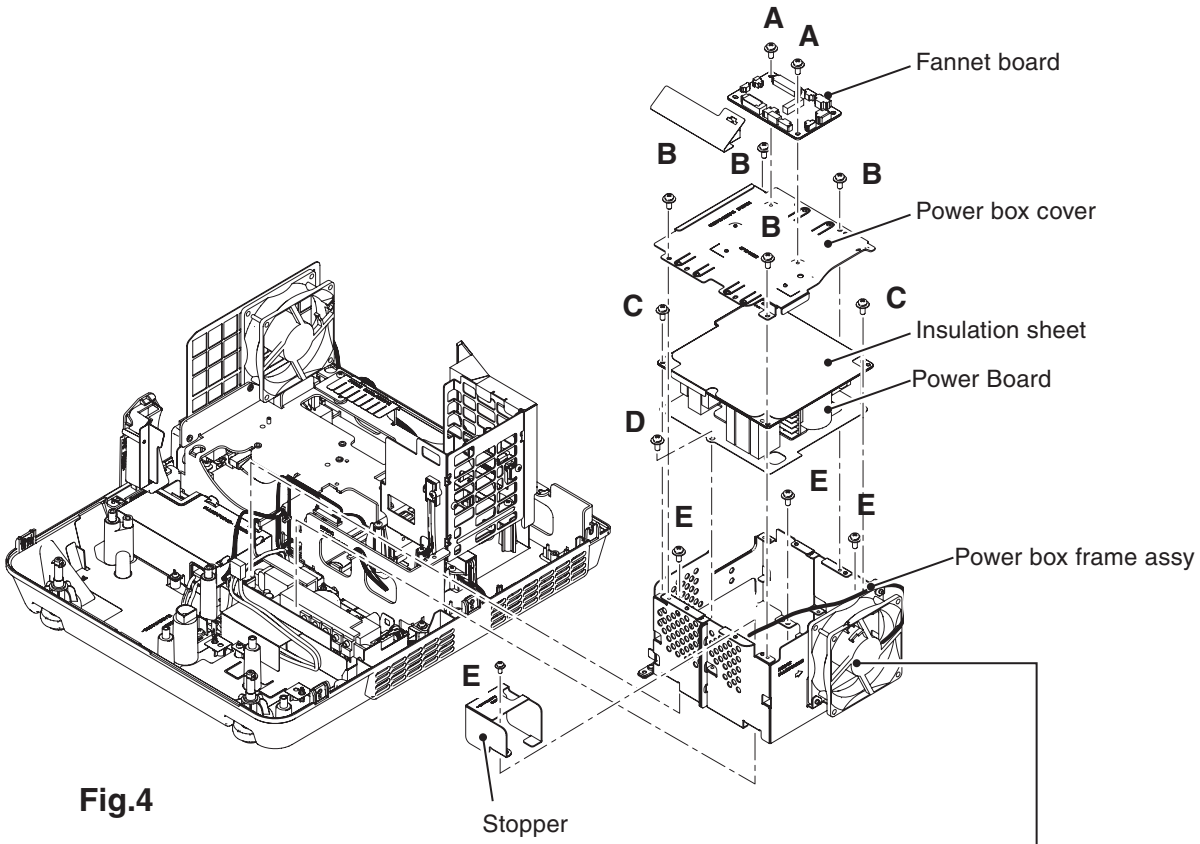
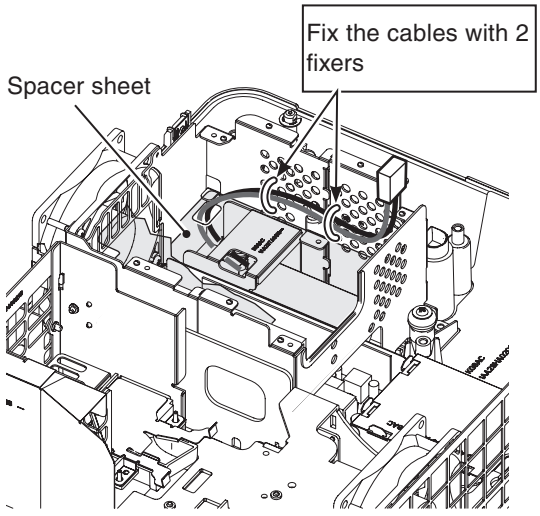
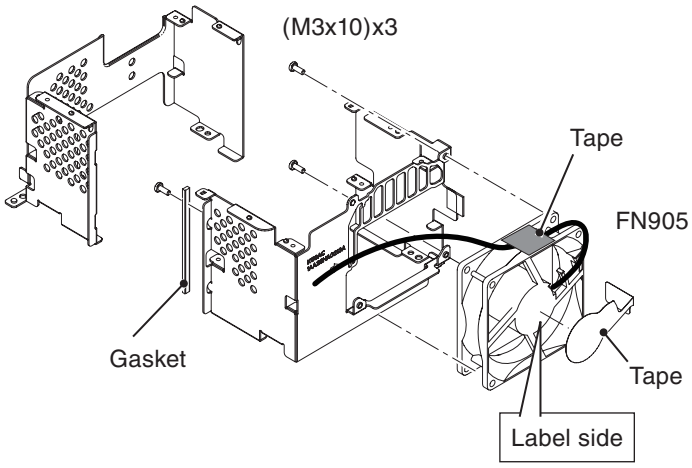


Fig.4

Fixing of cables in the power box





5 Ballast board and thermal fuse(SW902) removal

1. Remove 2 screws A(M3x6) to remove the side lamp shield.
2. Remove 4 screws B(M3x8) to remove the lamp house frame.
3. Remove 2 screws C(T3x8) to remove the ballast board, remove 1 screw D(T3x8) to remove the Trigger box , remove 2 screws E(M3x6) to remove the ballast socket.

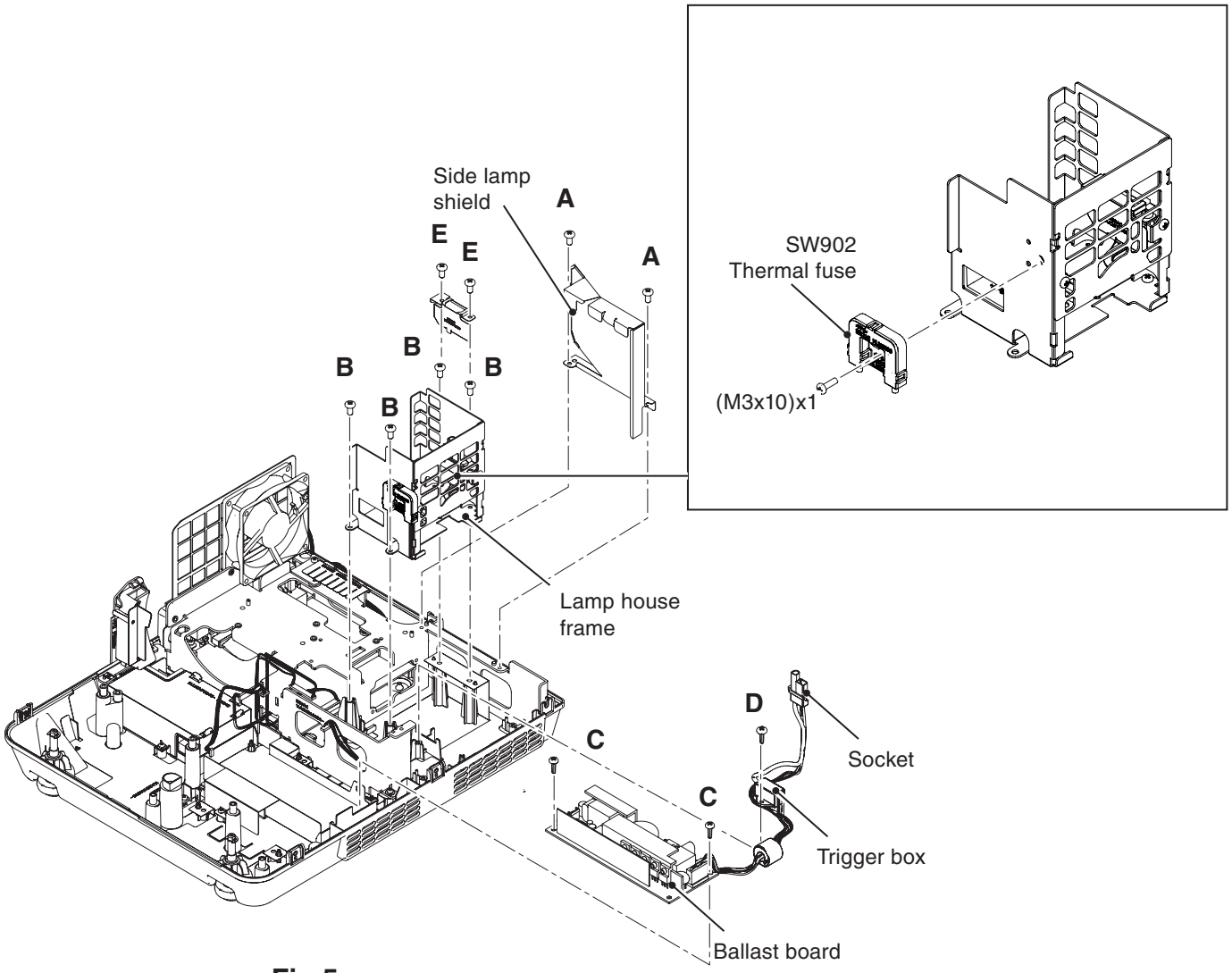
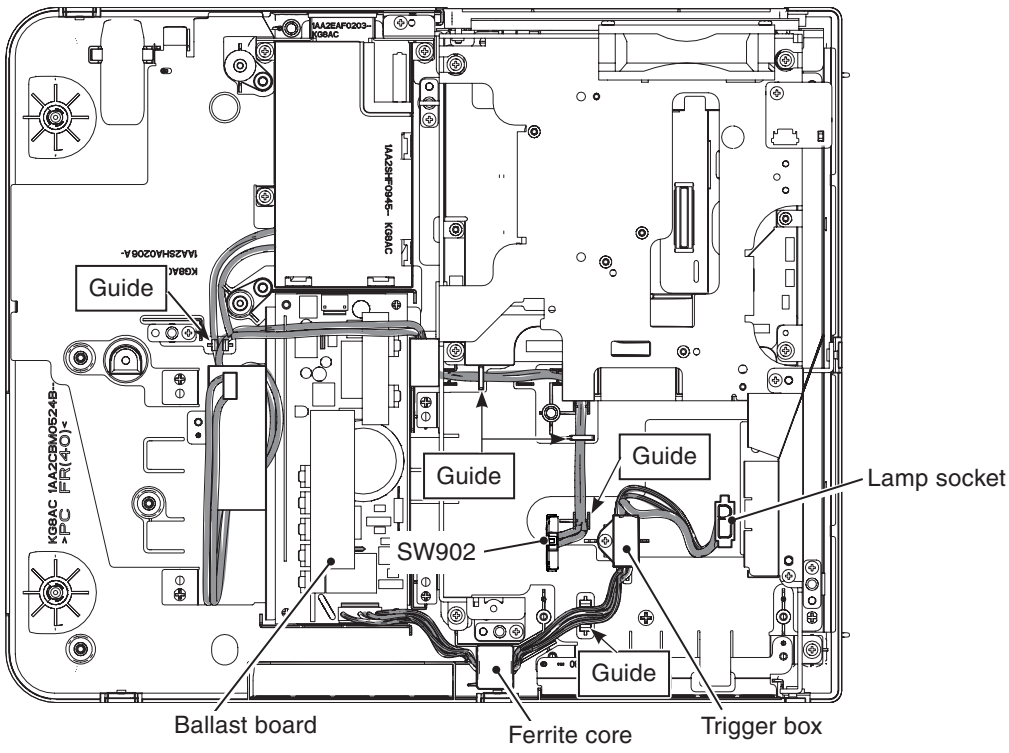


Fig.5

Wiring of cables

Dress the cables into the guides on the cabinet bottom as shown in the figure below.



6 Line filter board removal

1. Remove 2 screw A(M3x6) to remove the focus lever cover.
2. Remove 3 screws B(M3x8) to remove the line filter shield.
3. Remove 2 screws C(T3x8) to remove the line filter board and insulation sheet.

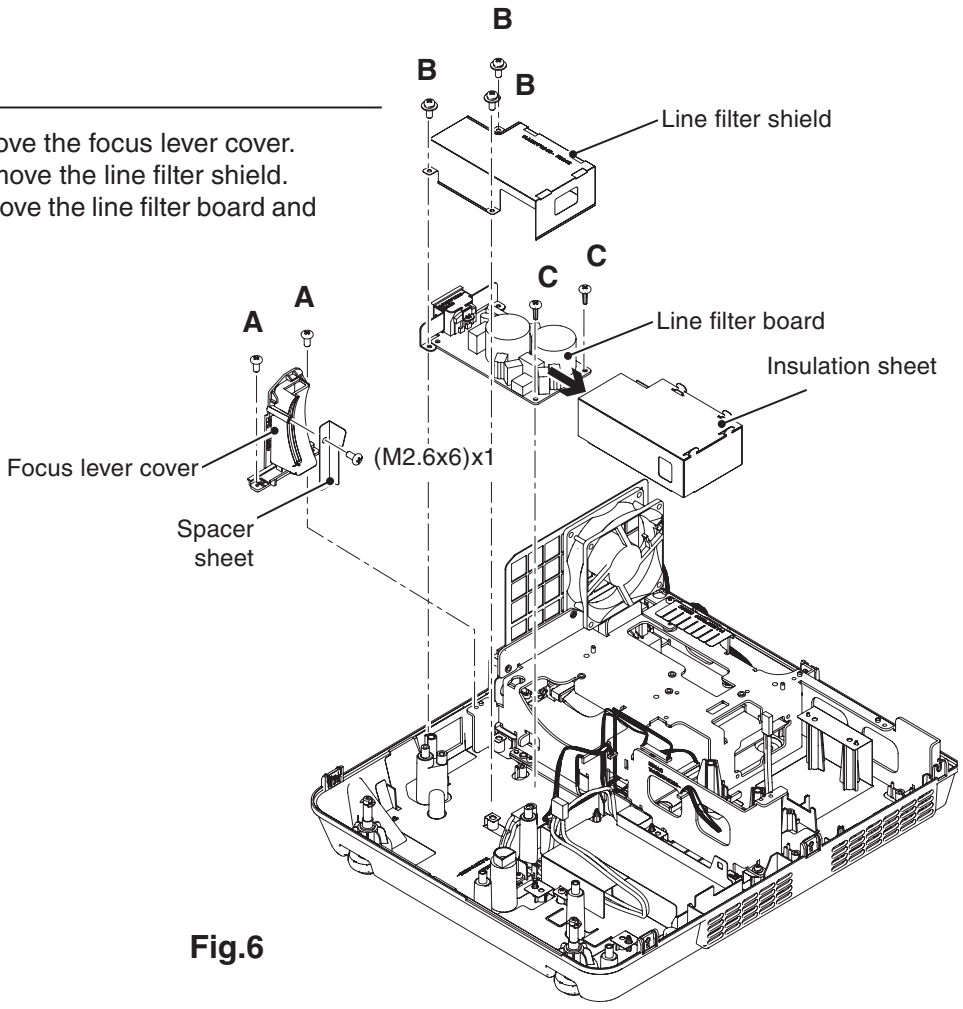


Fig.6

7 Main, AV Board and fans (FN901, FN906) removal-1

1. Remove 1 screw A(M3x6) to remove the temp sensor 1 board.
2. Remove 6 screws B(M3x12) to remove the main and AV board assy.

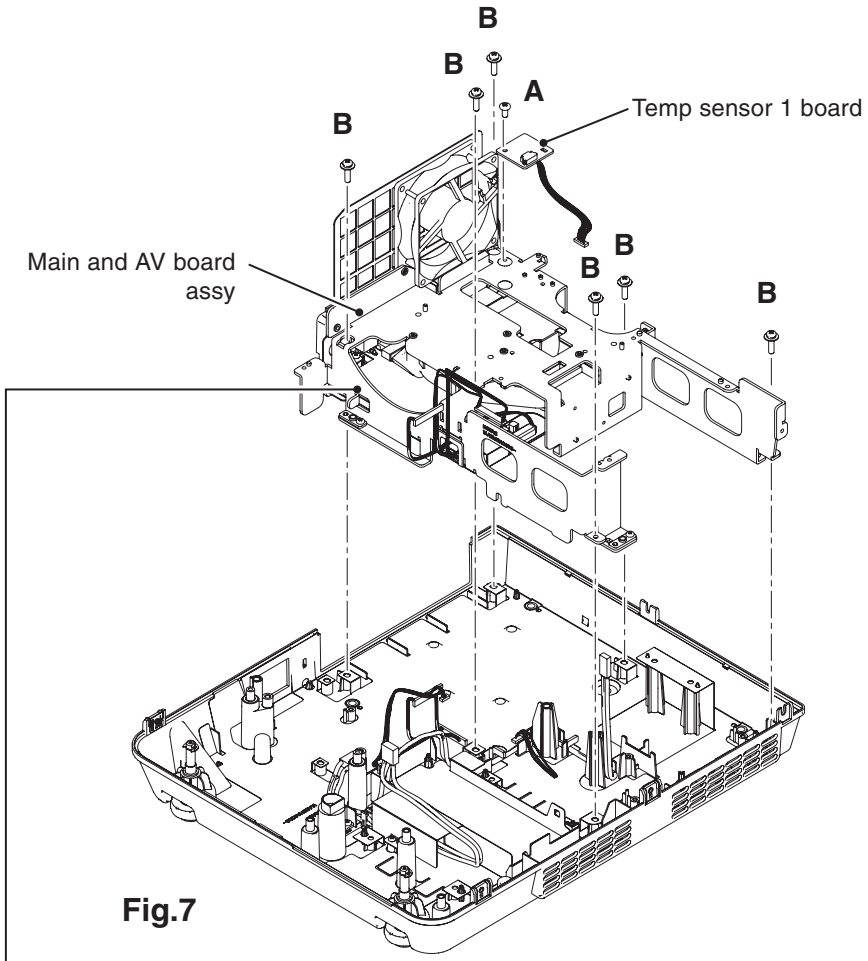
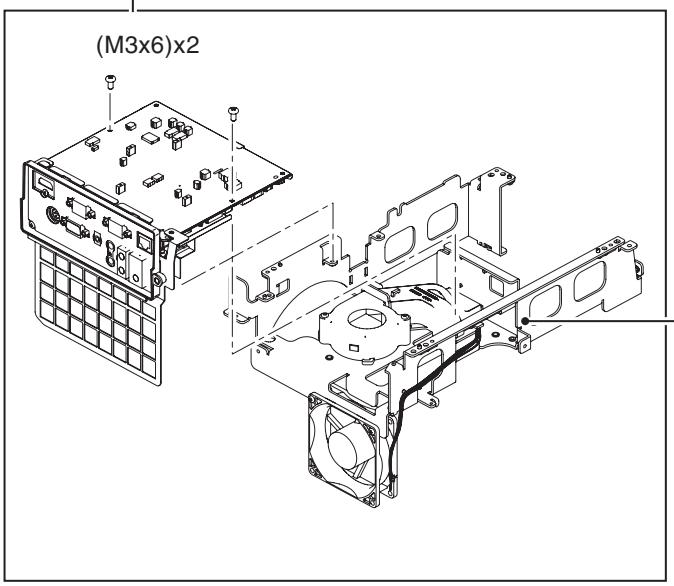
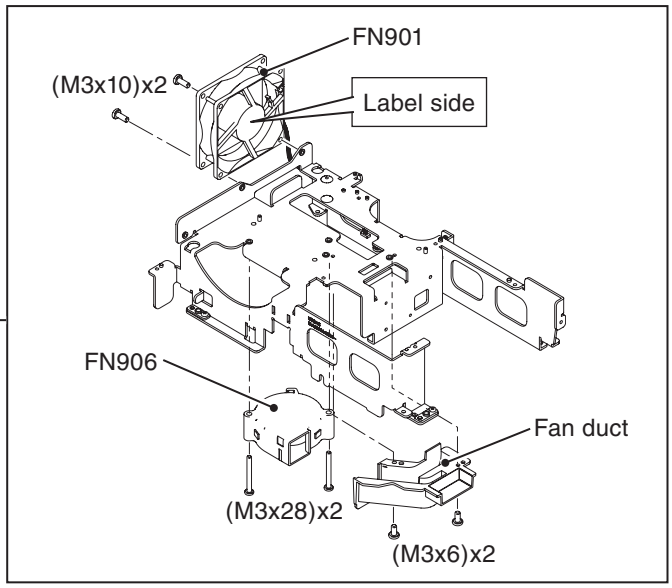
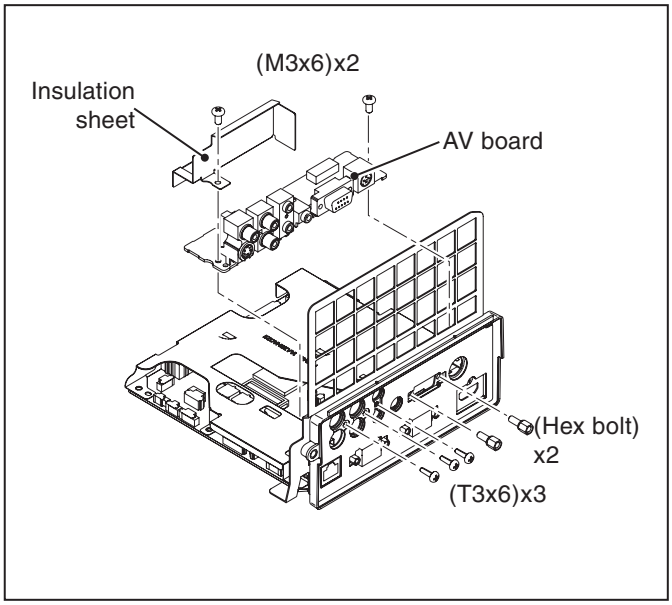


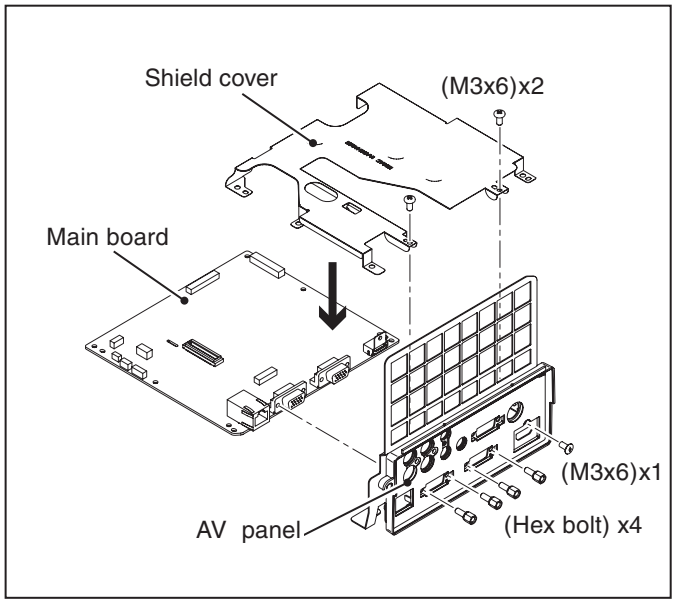
Fig.7





8 Main, AV board and fans (FN901, FN906) removal-2





9 Note on wiring

After disassembling the mechanical parts or electrical parts, the wiring cables must be placed in the original position.
Especially the cable dressing indicated in the figure below, use a fixer not to touch the cable to the parts on the primary power circuit.

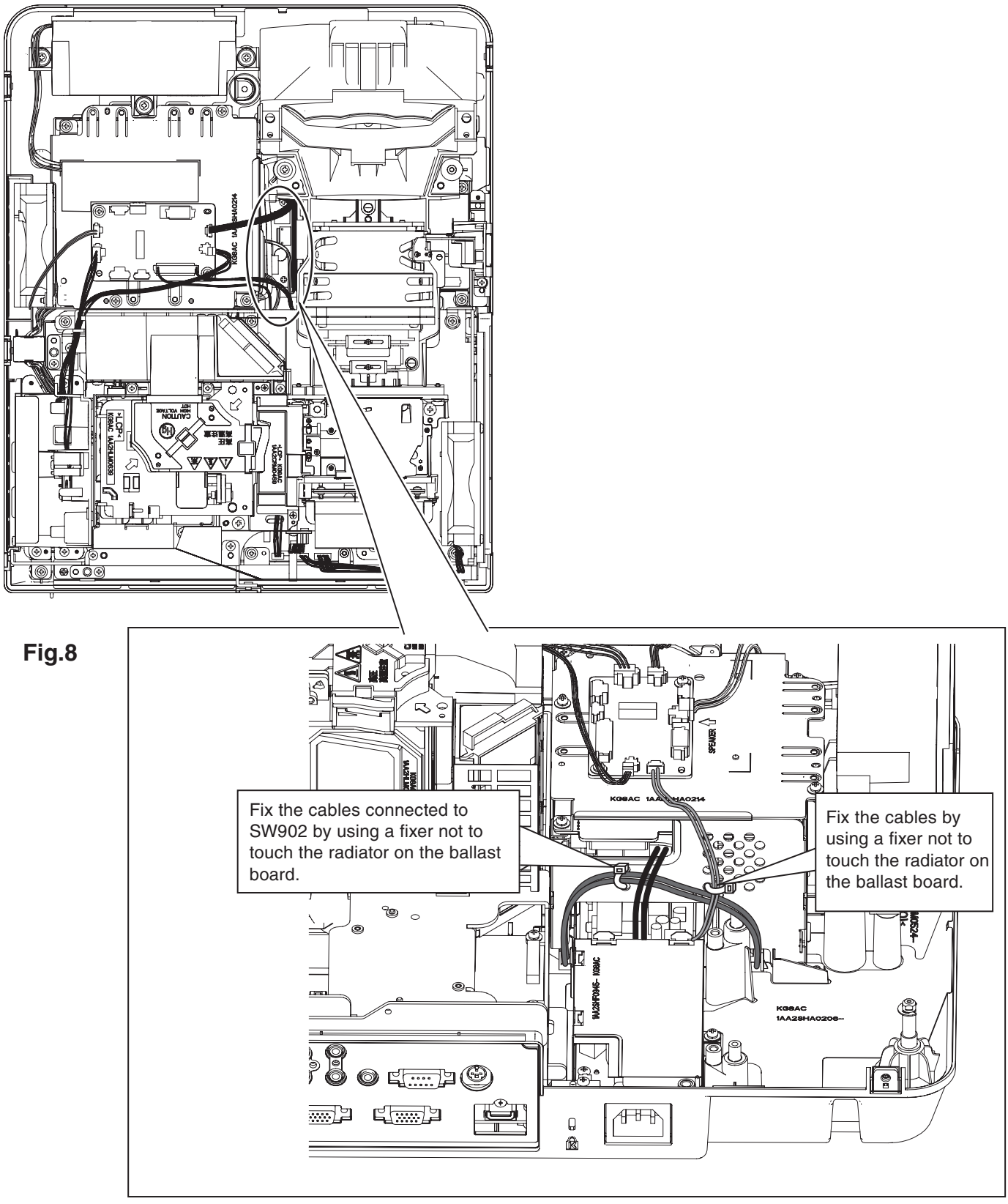

Fix the cables connected to SW902 by using a fixer not to touch the radiator on the ballast board.
Fix the cables by using a fixer not to touch the radiator on the ballast board.

Fig.8

Servicing Notice

Note on main board replacement

Take the following steps when the main board is replaced.

Serial number and lamp runtime setting

The data of "serial number" and "lamp runtime" are stored in the memory IC (IC1431) on the main board.After replacing the main board ,perform the work below to restore the serial number and lamp runtime.

- Use the serial no. setting tool to write the correct serial no. referring to the serial no. (S/N) printed on the rating label. For further details, refer to the operation manual of the software [SERIAL NO. SETTING TOOL v1.00].
- It is impossible to rewrite the lamp runtime stored in the memory IC (IC1431), remove it on the previous main board and replace it on the new main board.

The projector serial no. setting tool v1.00 can be download from the projector service web site.

Model no. setting

The data of projector's model no. is stored in memory IC (IC1431) on the main board. After replacing the main board, perform the work below to restore the model number.

- 1. Enter the service mode.
  2. Select the Group "430 ~ 437" and No. "1", change the data value from "0" to "10". Refer to table below. The data value will return to "0" after setting.
  3. To check the setting, select each Group and No. "0" and check its value with table below.

  How to enter the service mode, or set the Group. No. and data, refer to the item "Service adjustment menu operation".

Model no. setting

Model no. setting	Group	No.	Data
Not defined	430	0	✻ (refer t table right)
		1	0 -> 10
PT-CW230U PT-CX200U	431	0	✻ (refer t table right)
		1	0 -> 10
PT-CW230 PT-CX200	432	0	✻ (refer t table right)
		1	0 -> 10
PT-CW230E PT-CX200E	433	0	✻ (refer t table right)
		1	0 -> 10
PT-CW230EJ PT-CX200EJ	434	0	✻ (refer t table right)
		1	0 -> 10
PT-CW230EA PT-CX200EA	435	0	✻ (refer t table right)
		1	0 -> 10
PT-CW230EAJ PT-CX200EAJ	436	0	✻ (refer t table right)
		1	0 -> 10
PT-GW33C PT-GX30C	437	0	✻ (refer t table right)
		1	0 -> 10

Model no. checking

Data	Model no.
0	Not defined
1	PT-CW230U PT-CX200U
2	PT-CW230 PT-CX200
3	PT-CW230E PT-CX200E
4	PT-CW230EJ PT-CX200EJ
5	PT-CW230EA PT-CX200EA
6	PT-CW230EAJ PT-CX200EAJ
7	PT-GW33C PT-GX30C

Adjustments

Adjustments after parts replacement

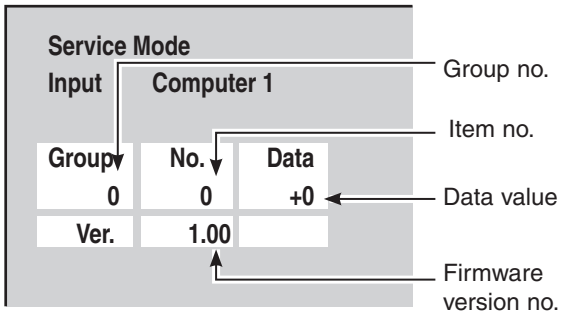
● : Adjustment necessary ❍ : Check necessary

		Disassembly / Replaced parts			
		Optical Unit	Color Wheel	Power Board	Main Board
Adjustments	Fan voltage adjustment			●	●
	Auto calibration adjustment [PC]				❍
	Auto calibration adjustment [Component]				❍
	Color index adjustment-1	●			●
	Color index adjustment-2		●		

Service adjustment menu operation

To enter the service mode

To enter the “Service Mode”, press and hold the **MENU** and **SELECT button** for more than 3 seconds, or press and hold the **MENU button** on the remote control for more than 20 seconds. The service menu appears on the screen as follows.

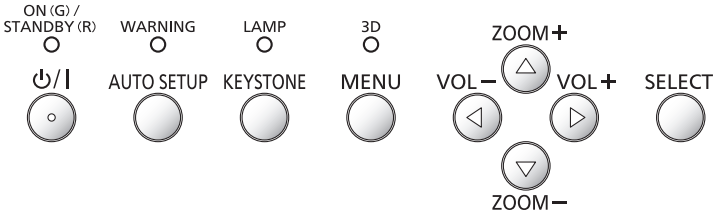


To adjust service data

Select the adjustment group no. by pressing the **MENU button** (increase) or **SELECT button** (decrease), and select the adjustment item no. by pressing the pointer ▲ or ▼ **button**, and change the data value by pressing the ◀ or ▶ **button**. Refer to the “Service Adjustment Data Table” for further description of adjustment group no., item no. and data value.

To exit the service mode

To exit the service mode, press the ⏻/| **button.**



Electrical Adjustments

Circuit adjustments

CAUTION: The each circuit has been made by the fine adjustment at factory. Do not attempt to adjust the following adjustments except requiring the readjustments in servicing otherwise it may cause loss of performance and product safety. Before adjustment, please turn on the projector more than ten minutes.

WARNING : USE UV RADIATION EYE AND SKIN PROTECTION DURING SERVICING.

CAUTION:
To prevent suffer of UV radiation, those adjustments must be completed within 25 minutes.

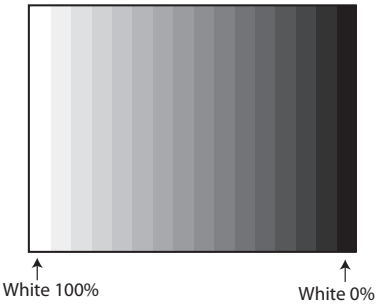
[Adjustment Condition]

● Input signal

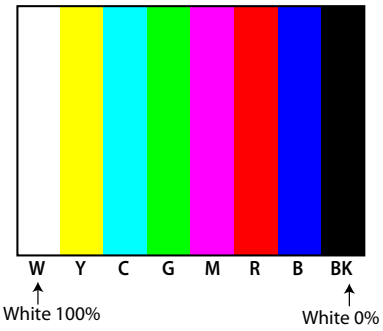
Analog Computer signal..... 0.7Vp-p/75Ω terminated (XGA)
Composite Video signal ... 1.0Vp-p/75Ω terminated (NTSC / PAL)
Component Video signal .... 1.0Vp-p/75Ω terminated (480i)

● Input signal patterns

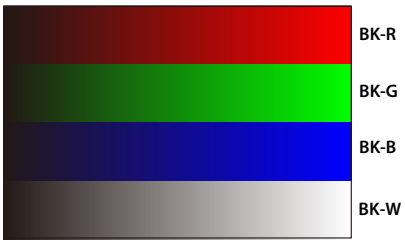
16 steps gray scale pattern



8 color 100% full color bar



RGBW Ramp pattern (Internal signal)



● Image mode..... Standard
● Lamp power..... Normal
● 3D mode ..... Off

Note:
* Please refer to “Service adjustment menu operation” for entering the service mode and adjusting the service data.

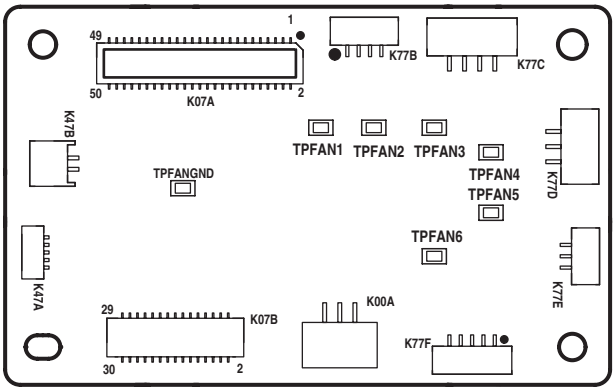
1 Fan voltages adjustment

Equipment Digital multimeter

1. Enter the service mode.
2. Connect the Digital multimeter to the test point listed below.
3. Adjust the voltage on each test point by changing the data values of the Group - No.

Group No.	Test Point	Adjustment value
250 - 0	TPFAN1	**4.5 -0 +0.1Vdc**
250 - 1	TPFAN1	**13.8 -0.1 +0Vdc**
250 - 2	TPFAN2	**4.5 -0 +0.1Vdc**
250 - 3	TPFAN2	**13.8 -0.1 +0Vdc**
250 - 4	TPFAN3	**4.5 -0 +0.1Vdc**
250 - 5	TPFAN3	**13.8 -0.1 +0Vdc**
250 - 6	TPFAN4	**4.5 -0 +0.1Vdc**
250 - 7	TPFAN4	**13.8 -0.1 +0Vdc**
250 - 8	TPFAN5	**4.5 -0 +0.1Vdc**
250 - 9	TPFAN5	**13.8 -0.1 +0Vdc**
250 - 10	TPFAN6	**4.5 -0 +0.1Vdc**
250 - 11	TPFAN6	**13.8 -0.1 +0Vdc**

FAN NET Board



2 PC auto calibration

Input mode	Computer 1 (RGB)
Input signal	XGA computer signal
Signal pattern	16-step gray scale

1. Enter the service mode.
2. Select the group "**260**", no. "**0**" and set the data value "**0**" to "**1**".
   The projector begins auto-calibration and then "**OK**" will appear on the screen.

3 Component auto calibration

Input mode	Computer 1 (Component) mode
Input signal	Component signal (480i)
Input pattern	8 color bar

1. Enter the service mode.
2. Select the group "**260**", no. "**0**" and set the data value "**0**" to "**1**".
   The projector begins auto-calibration and then "**OK**" will appear on the screen.

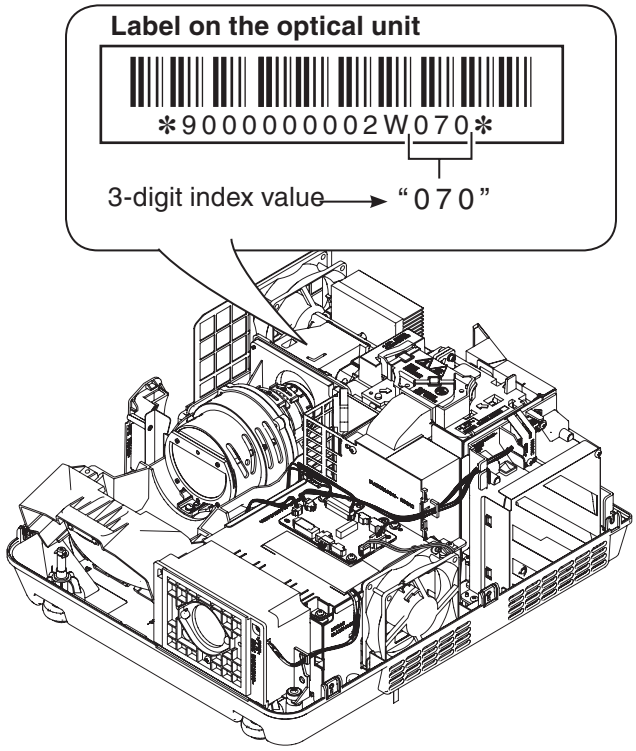
Adjustments item no. [2] to [3] are carried out at the spare parts shipment in the factory, therefore they are not required when the main board is replaced with new one.

4 Color index adjustment-1

Condition	Dark room
Input mode	Computer 1 (RGB) mode
Image mode	Dynamic
Signal pattern	RGBW-Ramp pattern (Internal signal)

1. Enter the service mode.
2. Select the group "**151**", no. "**21**" and set the data value to "**1**". The RGBW-Ramp internal pattern is displayed on the screen.
3. Select the group "**151**", no. "**0**" and set the data value to the specified index value which is printed on the label of the optical unit.
4. Check that the proper gradation color image is reproduced on the screen.

* Only this adjustment is needed when the optical unit or main board is replaced.



5 Color index adjustment-2

Condition	Dark room
Input mode	Computer 1 (RGB) mode
Image mode	Dynamic
Signal pattern	RGBW-Ramp pattern (Internal signal)

1. Enter the service mode.
2. Select the group "**151**", no. "**21**" and set the data value to "**1**". The RGBW-Ramp internal pattern is displayed on the screen.
3. Select the group "**151**", no. "**0**" and change the data value to obtain the proper gradation color image is reproduced on the screen

* Only this adjustment is needed when the color wheel is replaced.

Service adjustment data

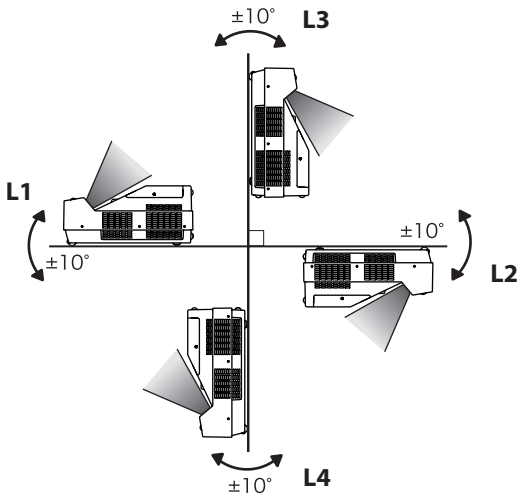
These initial values are the reference data written from the CPU ROM to memory IC when replaced new memory IC. The adjustment items indicated with "⁎" are required to readjust following to the "Electrical adjustments". Other items should be used with the initial data value.

Group/ Item	Item Name	Function	Initial	Range	Note
Group 0	**AD Converter (AF1000)**				
0	Green Offset	PC / Component	512/512	0 - 4095	
1	Red Offset	PC / Component	512/512	0 - 4095	
2	Blue Offset	PC / Component	512/512	0 - 4095	
3	Green Coarse Gain	PC / Component	7/7	0 - 15	
4	Red Coarse Gain	PC / Component	7/7	0 - 15	
5	Blue Coarse Gain	PC / Component	7/7	0 - 15	
6	Green Fine Gain	PC / Component	0/0	0 - 255	
7	Red Fine Gain	PC / Component	0/0	0 - 255	
8	Blue Fine Gain	PC / Component	0/0	0 - 255	
9	SCART SOG Thresh	SCART only	12	0 - 31	
Group 60	**Sub Image**				
0	Center Contrast	Group: Composite/S-Video/Component/Digital/D-RGB-Video/Alanou RGB RGB-Video/HDCP-PC/HDCP-AV/SCART	98/98/106/98/98/106 106/98/98/106/100	0 - 1023	
1	Center Brightness		0/0/0/0/0/0 0/0/0/0/0	0 - 1023	
2	Center Color		100/100/100/100100/100 100/100/100/100/100	0 - 1023	
3	Center Tint		0/0/0/0/00 0/0/0/0/0	0-180	
6	Center Sharpness (not FPGA)		16/16/16/16/16/16 16/16/16/16/16	0 - 37	
7	Center WB Red		512/512/512/512/512/512 512/512/512/512/512	0 - 1023	
8	Center WB Green		512/512/512/512/512/512 512/512/512/512/512	0 - 1023	
9	Center WB Blue		512/512/512/512/512/512 512/512/512/512/512	0 - 1023	
10	Center BB Red		512/512/512/512/512/512 512/512/512/512/512	0 - 1023	
11	Center BB Green		512/512/512/512/512/512 512/512/512/512/512	0 - 1023	
12	Center BB Blue		512/512/512/512/512/512 512/512/512/512/512	0 - 1023	
13	Alpha Contrast		60/60/60/60/60/60 60/60/60/60/60	0 - 1000	
14	Alpha Brightness		90/90/90/90/90/90 90/90/90/90/90	0 - 1000	
15	Alpha Color		140/140/140/140/140/140 140/140/140/140/140	0 - 1000	
16	Alpha Tint		10/10/10/10/10/10 10/10/10/10/10	0 - 1000	
17	Alpha Sharpness		10/10/10/10/10/10 10/10/10/10/10	0 - 1000	
18	Alpha WB Red		40/40/40/40/40/40 40/40/40/40/40	0 - 1000	
19	ALpha WB Green		40/40/40/40/40/40 40/40/40/40/40	0 - 1000	
20	Alpha WB Blue		40/40/40/40/40/40 40/40/40/40/40	0 - 1000	
21	Alpha BB Red		20/20/20/20/20/20 20/20/20/20/20	0 - 1000	
22	Alpha BB Green		20/20/20/20/20/20 20/20/20/20/20	0 - 1000	
23	Alpha BB Blue		20/20/20/20/20/20 20/20/20/20/20	0 - 1000	
Group 151	**Color Wheel**				
0	Index Delay	Index Value of Color Wheel	70	0 - 360	
20	Raster Pattern	0: Off 1: Blue Back 2: Green Back 3: Red Back 4: Black Back 5: White Back 6: 60% Blue Back 7: 10% Gray Back 8: 30% Gray Back 9: 50% Gray Back 10: Cyan Back 11: Magenta Back 12: Yellow Back	0	0 - 12	
21	Test Pattern	0: Off 1: Color Ramp 2: Color Bar 3: 16 step 4: Grid 5: Green Grid 6: 1-line Pattern 7: 1-dot Pattern 8: BC Calibration 9: Half Cross	0	0 - 9	

Group/ Item	Item Name	Function	Initial	Range	Note
Group 156	**Color Matching - Measured Data**				
0	Measured Red -X	Adjust Color matching Data 0: Image = Dynamic mode 1: Image = Standard mode 2: Image = Cinema mode 3: 120Hz Output mde 4: 3D mode * This data will be effective after executing the item 100.		0 - 1000	
1	Measured Red -Y			0 - 1000	
2	Measured Red -Luma			0 - 32767	
10	Measured Green -X			0 - 1000	
11	Measured Green -Y			0 - 1000	
12	Measured Green -Luma			0 - 32767	
20	Measured Blue -X			0 - 1000	
21	Measured Blue -Y			0 - 1000	
22	Measured Blue -Luma			0 - 32767	
70	Measured Full White -X			0 - 1000	
71	Measured Full White -Y			0 - 1000	
72	Measured Full White -Luma			0 - 32767	
100	measured Data Update	Update the Measured Data when the value is set to 10.		0 - 10	
120	Measured Test Pattern	OFF / Red / Green / Blue / Full White		0 - 4	
Group 160	**Waveform Index**				
0	Bright Image Mode	Image = Dynamic	4/0	0 - 10	
1	Normal Image Mode	Image = Standard	2/0	0 - 10	
2	Color Image Mode	Image = Cinema	3/0	0 - 10	
3	Normal 120Hz	120Hz Mode	3/0	0 -10	
4	3D Image Mode	3D Mode	3/0	0 - 10	
Group 161	**Lamp Sync Delay**				
0	Bright Image Mode	Image = Dynamic	190	0 - 32767	
1	Normal Image Mode	Image = Standard	190	0 - 32767	
2	Color Image Mode	Image = Cinema	190	0 - 32767	
3	Normal 120Hz	120Hz Mode	190	0 - 32767	
4	3D Image Mode	3D Mode	190	0 - 32767	
Group 200	**Option**				
0	Logo Prohibition (Forced No Brand)	Logo Prohibition (0: Menu, 1: Forced, 2: China, 3-9: not used) Effective after AC On	0	0 - 2	
1	RS232C Baudrate	Baud Rate 0: 19200bps, 1: 9600bps	0	0 - 1	
4	CABLE SW	Long Cable 0: Disable, 1: Enable	0	0 - 1	
5	PW Debug Command Enable	0:Disable (Serial Command Eanble) 1: Enable (PW Debug Mode)	0	0 - 1	
8	Network Hung up Check	0: Enable, 1: Disable	0	0 - 1	
13	HDMI Detailed Timing	0: Native, 1: 1080p	1	0 - 1	
51	Filter Warning Display	Filter Waring Display On/Off 0: Off, 1: On	1	0 - 1	
53	Filter Counter Reset Times	Reset Times	0	0 - 255	
54	Factory Default Execute Times	Reset Times	0	0 - 255	
63	Source Search Enable	Siurce Search Enable o: Disable, 1: Enable	1	0 - 1	
111	Sound Mute	0: work alone, 1: Work with Sound Mute	1	0 - 1	
120	HDMI CONT	0: EDID/HPD Manual Control in the Standby 1: EDID/HPD Auto Control in the Standby	1	0 - 1	
Group 201	**Option (signal)**				
0	FrameLock Option		1	0 - 1	
1	AV TRUE		0	0 - 1	
2	Field Sense Invert Enable		0	0 - 1	
3	Automatic "Auto PC" Enable		0	0 - 1	
4	Sub Image Enable		1	0 - 1	
6	Zoom Accelerator Enable		0	0 - 1	
7	DZoom Reset by Keystone		0	0 - 1	
8	Stability Count		5	0 - 255	
9	Sensivity for Signal Lost (HSYNC)		350	0 - 32767	
10	Sensivity for Signal Lost (VSYNC)		3	0 - 255	
11	Keystone Filter Center Value		16	0 - 30	
Group 220	**Error Log**				
0	Waring Log 1	Latest Error Log	0	0 - 32767	
~	Warning Log x th	x th old Error Log	0	0 - 32767	
49	Warinig Log 50	50th old Error Log	0	0 - 32767	
50	Warinig Log Reset	Resets All Warning Logs when the value is set to 10.	0	0 - 10	
Group 250	**FAN Voltage Adjustment**				
0	Fan 1 Min Adjust (DAC)		25	0 - 255	
1	Fan 1 Max Adjustt(DAC)		235	0 - 255	
2	Fan 2 Min Adjust (DAC)		27	0 - 255	
3	Fan 2 Max Adjust (DAC)		237	0 - 255	

Group/ Item	Item Name	Function	Initial	Range	Note
4	Fan 3 Min Adjust (DAC)		31	0 - 255	
5	Fan 3 Max Adjust (DAC)		234	0 - 255	
6	Fan 4 Min Adjust (DAC)		27	0 - 255	
7	Fan 4 Max Adjust (DAC)		237	0 - 255	
8	Fan 5 Min Adjust (DAC)		28	0 - 255	
9	Fan 5 Max Adjust (DAC)		239	0 - 255	
10	Fan 6 Min Adjust (DAC)		28	0 - 255	
11	Fan 6 Max Adjust (DAC)		238	0 - 255	
Group 252	**Fan Option**				
1	Safety Switch	For Safety Application purpose	0	0 - 4	
2	Fan Manual Switch	0: Auto, 1: Manual	0	0 - 1	
3	Fan1 Manual Voltage	Fan1 Voltage (x0.1V)	100	0 - 145	
4	Fan2 Manual Voltage	Fan2 Voltage (x0.1V)	100	0 - 145	
5	Fan3 Manual Voltage	Fan3 Voltage (x0.1V)	100	0 - 145	
6	Fan4 Manual Voltage	Fan4 Voltage (x0.1V)	100	0 - 145	
7	Fan5 Manual Voltage	Fan5 Voltage (x0.1V)	100	0 - 145	
8	Fan6 Manual Voltage	Fan6 Voltage (x0.1V)	100	0 - 145	
9	All Fan MaxMin Control	Forced Fan Mode 0: Normal, 1: Normal-Min, 2: Normal-Max, 3: Eco-Min, 4: Eco Mox	0	0 - 4	

Group 253	FAN Error Setting		L1 Normal	L2 Ceiling	L3 Bottom	L4 Up	
0	Temp A Warning (Normal)	Temperature A to judge the Temp. Failure Outside at Normal	48	48	48	48	30 - 100
1	Temp B Warning (Normal)	Temperature B to judge the Temp. Failure DMD at Normal	68	67	67	68	30-100
2	Temp C Warning (Normal)	Temperature C to judge the Temp. Failure Lamp at Normal	68	67	68	68	30-100
3	Temp B-A Waninig (Normal)	Temperature B-A to judge the Temp. Failure Filter Clogged at Normal	100	100	100	100	0-100
4	Temp C-A Warning (Normal)	Temperature C-A to judge the Temp. Failure Filter Clogged at Normal	100	100	100	100	0-100
5	Temp A Warning (Eco)	Temperature A to judge the Temp. Failure Outside at Eco	50	49	49	49	30 - 100
6	Temp B Warning (Eco)	Temperature B to judge the Temp. Failure DMD at Eco	71	71	70	70	30 - 100
7	Temp C Warning (Eco)	Temperature C to judge the Temp. Failure Lamp at Eco	73	72	73	73	30 - 100
8	Temp B-A Warninig (Eco)	Temperature B-A to judge the Temp. Failure Filter Clogged at Eco	100	100	100	100	0 - 100
9	Temp C-A Warning (Eco)	Temperature C-A to judge the Temp. Failure Filter Clogged at Eco	100	100	100	100	0 - 100
10	Temp A Warning Offset (Temp)			12			0 - 100
11	Temp B Warning Offset (Temp)			11			0 - 100
12	Temp C Warning Offset (Temp)			13			0 - 100
13	Temp B-A Warning Offset (Temp)			11			0 - 100
14	Temp C-A Warning Offset (Temp)			13			0 - 100
15	Temp A Warning Offset (Time)			30			0 - 40
16	Temp B Warning Offset (Time)			15			0 - 40
17	Temp C Warning Offset (Time)			15			0 - 40
18	Temp B-A Warning Offset (Time)			15			0 - 40
19	Temp C-A Warning Offset (Time)			15			0 - 40



Group/ Item	Item Name	Function	Initial				Range	Note
			L1 Normal	L2 Ceiling	L3 Bottom	L4 Up		
Group 254	**FAN Control Range Setting (Temp./Voltage)**							
0	Normal Fan Control Min Temp	Temp Sensor Control Start/End at Normal	27	27	27	27	20 - 100	
1	Normal Fan Control Max Temp		36	36	36	36	20 - 100	
2	Normal Fan1 Min	Fan Voltage at Normal (x0.1V)	62	62	62	62	0 - 255	
3	Normal Fan1 Max		138	138	138	138	0 - 255	
4	Normal Fan2 Min		90	70	105	55	0 - 255	
5	Normal Fan2 Max		95	70	110	70	0 - 255	
6	Normal Fan3 Min		75	95	55	115	0 - 255	
7	Normal Fan3 Max		75	105	75	120	0 - 255	
8	Normal Fan4 Min		80	80	80	80	0 - 255	
9	Normal Fan4 Max		138	138	138	138	0 - 255	
10	Normal Fan5 Min		75	78	78	75	0 - 255	
11	Normal Fan5 Max		138	138	138	138	0 - 255	
12	Normal Fan6 Min		55	55	55	55	0 - 255	
13	Normal Fan6 Max		135	135	135	135	0 - 255	
16	Eco Fan Control Min Temp	Temp Sensor Control Start/End at Eco	27	27	27	27	0 - 255	
17	Eco Fan Control Max Temp		37	37	37	37	0 - 255	
18	Eco Fan1 Min	Fan Voltage at Eco (x0.1V)	60	60	60	60	0 - 255	
19	Eco Fan1 Max		70	70	70	70	0 - 255	
20	Eco Fan2 Min		60	50	60	45	0 - 255	
21	Eco Fan2 Max		70	55	70	50	0 - 255	
22	Eco Fan3 Min		50	65	50	65	0 - 255	
23	Eco Fan3 Max		55	75	55	75	0 - 255	
24	Eco Fan4 Min		60	60	60	60	0 - 255	
25	Eco Fan4 Max		120	120	120	120	0 - 255	
26	Eco Fan5 Min		52	55	55	52	0 - 255	
27	Eco Fan5 Max		110	110	110	110	0 - 255	
28	Eco Fan6 Min		50	50	50	50	0 - 255	
29	Eco Fan6 Max		115	115	115	115	0 - 255	
Group 255	**FAN Start/Cooling Setting**							
0	Fan1 Initial Volt	Fan Voltage at Startup (x0.1V)			70		0 - 255	
1	Fan2 Initial Volt				60		0 - 255	
2	Fan3 Initial Volt				60		0 - 255	
3	Fan4 Initial Volt				65		0 - 255	
4	Fan5 Initial Volt				70		0 - 255	
5	Fan6 Initial Volt				60		0 - 255	
7	Cooling Time L1	Cooling Time at L1 (x 30 sec.)			2		1 - 15	
8	Cooling Time L2	Cooling Time at L2 (x 30 sec.)			3		1 - 15	
9	Temp Error Cooling Time	Cooling Time at Temp Error (x 30sec.)			3		1 - 15	
10	onStart Cooling Start Threshold	Cooling Start Threshold Temp at On Start			46		0 - 100	
11	After Shutdown Cooling	Cooling On/Off After Shutdown			1		0 - 1	
12	L1 Cooling Volt Fan2	Cooling Fan Voltage at L1 (x0.1V)			40		0 - 255	
13	L1 Cooling Volt Fan3				40		0 - 255	
14	L1 Cooling Volt Fan4				60		0 - 255	
Group 259	**FAN Atmosphere Setting**							
10	Temp A Warning (Normal, HighLand ON1)	Temperature A to judge the Temp. Failure Outside at Normal and HighLand ON1			42		0 - 100	
11	Temp B Warning (Normal, HighLand ON1)	Temperature B to judge the Temp. Failure DMD at Normal and HighLand ON1			62		0 - 100	
12	Temp C Warning (Normal, HighLand ON1)	Temperature C to judge the Temp. Failure Lamp at Normal and HighLand ON1			62		0 - 100	
13	Temp A Warning (Eco, HighLand ON1)	Temperature A to judge the Temp. Failure Outside at Eco and HighLand ON1			42		0 - 100	
14	Temp B Warning (Eco, HighLand ON1)	Temperature B to judge the Temp. Failure DMD at Eco and HighLand ON1			61		0 - 100	
15	Temp C Warning (Eco, HighLand ON1)	Temperature C to judge the Temp. Failure Lamp at Eco and HighLand ON1			64		0 - 100	
16	Temp A Warning (Normal, HighLand ON2)	Temperature A to judge the Temp. Failure Outside at Normal and HighLand ON2			37		0 - 100	
17	Temp B Warning (Normal, HighLand ON2)	Temperature B to judge the Temp. Failure DMD at Normal and HighLand ON2			58		0 - 100	
18	Temp C Warning (Normal, HighLand ON2)	Temperature C to judge the Temp. Failure Lamp at Normal and HighLand ON2			59		0 - 100	
19	Temp A Warning (Eco, HighLand ON2)	Temperature A to judge the Temp. Failure Outside at Eco and HighLand ON2			38		0 - 100	
20	Temp B Warning (Eco, HighLand ON2)	Temperature B to judge the Temp. Failure DMD at Eco and HighLand ON2			58		0 - 100	
21	Temp C Warning (Eco, HighLand ON2)	Temperature C to judge the Temp. Failure Lamp at Eco and HighLand ON2			61		0 - 100	
Group 260	**Auto Calibration (Commn)**							
0	Execute Calibration	Executes Auto-Calibration when the value is set to1			0		0 - 1	
1	Loop Count	Maximum Execution Times (OFFSET->GAIN)			20		1 - 30	
2	Auto Status	Result of Auto-Calibration (Last Memory) 0: OK, 1: Adjusting, 2: Error			0		0 / 1 / 9	

Group/ Item	Item Name	Function	Initial	Range	Note
4	CHECK -Tolerance	Tolerance of OFFSET	16	1 - 255	
5	Time out Wait	Wait Time until Time out	20	1 - 255	
Group 261	**Auto Calibration (RGB)**				
0	OFFSET AREA H START	Black Level Acquiring Area H-Start Position	975	0 - 1000	
1	OFFSET AREA V START	Black Level Acquiring Area V-Start Position	500	0 - 1000	
2	GAIN AREA H START	White Level Acquiring Area H-Start Position	25	0 - 1000	
3	GAIN AREA V START	White Level Acquiring Area V-Start Position	500	0 - 1000	
4	Image AREA H WIDTH	Black/White Level Acquiring Area	13	0 - 4095	
5	Image AREA V HIGHT	Black/White Level Acquiring Area Height	9	0 - 4095	
6	OFFSET target	Target Value of Black Level Adj.	0	0 - 1023	
7	OFFSET Tolerance	Tolerance of Black Level Adj.	8	1 - 1023	
8	GAIN target	Target Value of White Level Adj.	940	0 - 1023	
9	GAIN Tolerance	Tolerance of White Level Adj.	2	1 - 1023	
10	Image Level Tolerance	Tolerance of Image Level Adj.	4	1 - 255	
Group 264	**Auto Calibration (YCbCr)**				
0	Y-OFFSET AREA H START	Y - Offset Acquiring Area H-Start Position	925	0 - 1000	
1	Y-OFFSET AREA V START	Y - Offset Acquiring Area V-Start Position	500	0 - 1000	
2	CB - OFFSET AREA H START	CB - Offset Acquiring Area H-Start Position	925	0 - 1000	If not used: use Y's value
3	CB - OFFSET AREA V START	CB - Offset Acquiring Area V-Start Position	500	0 - 1000	If not used: use Y's value
4	CR - OFFSET AREA H START	CR - Offset Acquiring Area H-Start Position	925	0 - 1000	If not used: use Y's value
5	CR - OFFSET AREA V START	CR - Offset Acquiring Area V-Start Position	500	0 - 1000	If not used: use Y's value
6	Y - GAIN AREA H START	Y-Gain	50	0 - 1000	
7	Y - GAIN AREA V START	Y-Gain	500	0 - 1000	
8	CB - GAIN AREA H START	CB-Gain	800	0 - 1000	
9	CB - GAIN AREA V START	CB-Gain	500	0 - 1000	
10	CR - GAIN AREA H START	CR-Gain	700	0 - 1000	
11	CR - GAIN AREA V START	CR-Gain	500	0 - 1000	
12	Image AREA H WIDTH	YCBCR Level Acquiring Area	13	0 - 4095	
13	Image AREA V HIGHT	YCBCR Level Acquiring Area Height	9	0 - 4095	
14	Y - OFFSET TARTGET		1	0 - 1023	
15	CB OFFSET TARGET		512	0 - 1023	
16	CR OFFSET TARGET		512	0 - 1023	
17	Y - GAIN TARGET		808	0 - 1023	
18	CB - GAIN TARGET		892	0 - 1023	
19	CR - GAIN TARGET		892	0 - 1023	
20	OFFSET Tolerance	Tolerance of OFFSET Adj.	4	1 - 255	
21	GAIN Tolerance	Tolerance of GAIN Adj.	4	1 - 255	
22	Image Level Tolerance	Tolerance of Image Level Adj.	4	1 - 255	
Group 430	**Model No. Setting [No Name][For PT-CW230 / PT-CX200]**				
0	Model No. Confirm	0:NOName 1:PT-CW230U / PT-CX200U 2:PT-CW230 / PT-CX200 3:PT-CW230E / PT-CX200E 4:PT-CW230EJ / PT-CX200EJ 5:PT-CW230EA / PT-CX200EA 6:PT-CW230EAJ / PT-CX200EAJ 7:PT-GW33C / PT-GX30C	0	-	
1	Model No. Setting	Model No. is set when the value is set 0 to 10.	0	0 - 10	
Group 431	**Model No. Setting [PT-CW230U / PT-CX200U]**				
0	Model No. Confirm	* Refer to S430-0	0	-	
1	Model No. Setting	Model No. is set when the value is set to 10.	0	0 - 10	
Group 432	**Model No. Setting [PT-CW230 / PT-CX200]**				
0	Model No. Confirm	* Refer to S430-0	0	-	
1	Model No. Setting	Model No. is set when the value is set to 10.	0	0 - 10	
Group 433	**Model No. Setting [PT-CW230E / PT-CX200E]**				
0	Model No. Confirm	* Refer to S430-0	0	-	
1	Model No. Setting	Model No. is set when the value is set to 10.	0	0 - 10	
Group 434	**Model No. Setting [PT-CW230EJ / PT-CX200EJ]**				
0	Model No. Confirm	* Refer to S430-0	0	-	
1	Model No. Setting	Model No. is set when the value is set to 10.	0	0 - 10	

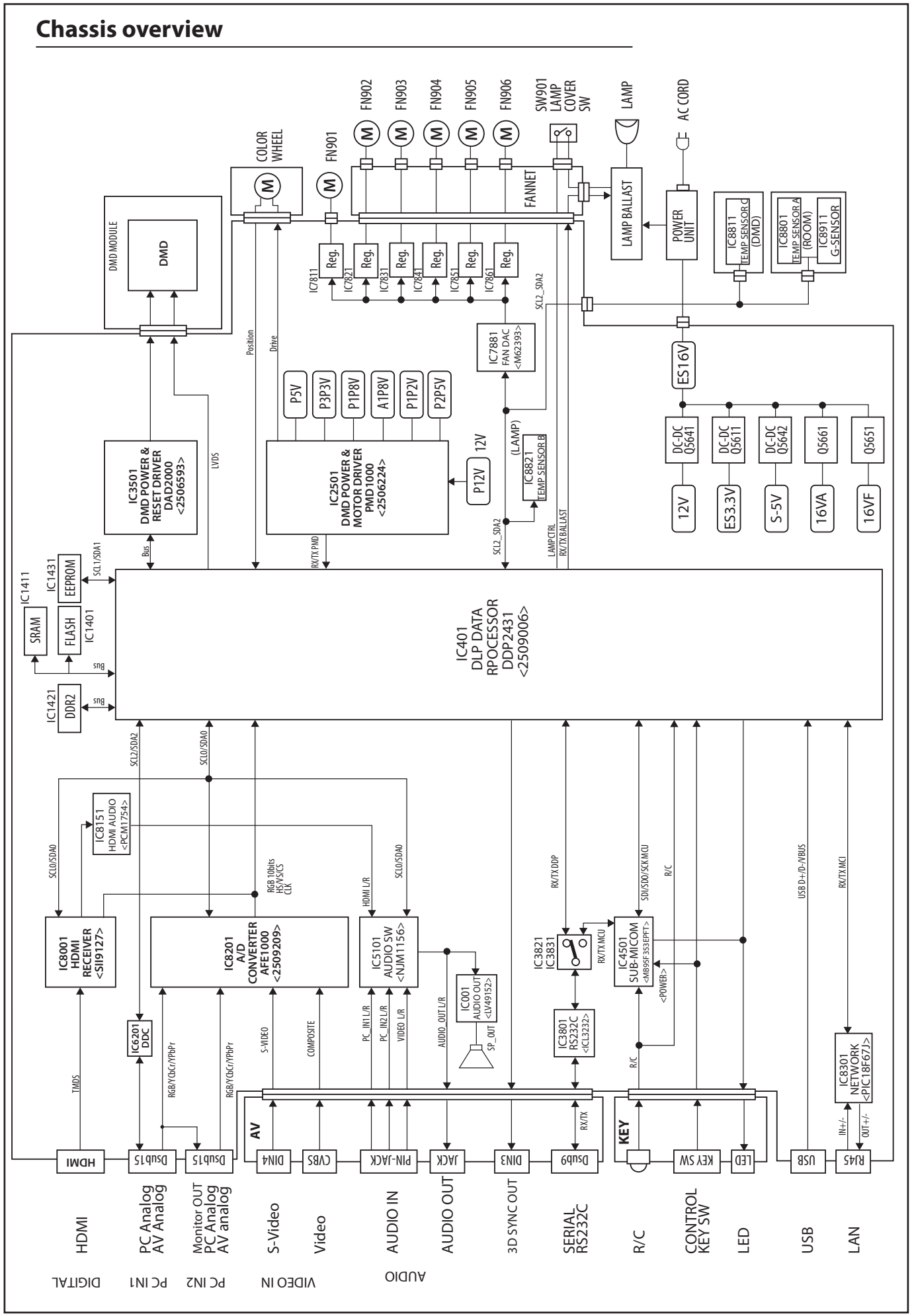
Group/ Item	Item Name	Function	Initial	Range	Note
Group 435	**Model No. Setting [PT-CW230EA / PT-CX200EA]**				
0	Model No. Confirm	* Refer to S430-0	0	-	
1	Model No. Setting	Model No. is set when the value is set to 10.	0	0 - 10	
Group 436	**Model No. Setting [PT-CW230EAJ / PT-CX200EAJ]**				
0	Model No. Confirm	* Refer to S430-0	0	-	
1	Model No. Setting	Model No. is set when the value is set to 10.	0	0 - 10	
Group 437	**Model No. Setting [PT-GW33C / PT-GX30C]**				
0	Model No. Confirm	* Refer to S430-0	0	-	
1	Model No. Setting	Model No. is set when the value is set to 10.	0	0 - 10	
Group 500	**SCART (480i)**		**PT-CW230 / PT-CX200**		
2	H Back Porch		119/119	0 ~ 4095	
3	V Back Porch		19/19	0 ~ 4095	
7	Overscan		52/52	0 - 255	
8	VSBEG		8/14	0 - 255	
16	Field Diff (SOG)	Even/Odd Phase Compensation	1/1	0 - 2	
Group 501	**SCART (575i)**				
2	H Back Porch		128/128	0 ~ 4095	
3	V Back Porch		24/24	0 ~ 4095	
7	Overscan		66/66	0 - 255	
8	VSBEG		8/14	0 - 255	
16	Field Diff (SOG)	Even/Odd Phase Compensation	1/1	0 - 2	
Group 510	**RGB Video (480i)**				
2	H Back Porch		116/116	0 ~ 4095	
3	V Back Porch		19/19	0 ~ 4095	
7	Overscan		52/52	0 - 255	
8	VSBEG		16/16	0 - 255	
15	Field Diff (SEP)	Even/Odd Phase Compensation on HV Sync	0/0	0 - 2	
16	Field Diff (SOG)	Even/Odd Phase Compensation on SOG Sync	1/1	0 - 2	
Group 511	**RGB Video (575i)**				
2	H Back Porch		134/134	0 ~ 4095	
3	V Back Porch		22/22	0 ~ 4095	
7	Overscan		68/68	0 - 255	
8	VSBEG		8/50	0 - 255	
15	Field Diff (SEP)	Even/Odd Phase Compensation on HV Sync	0/1	0 - 2	
16	Field Diff (SOG)	Even/Odd Phase Compensation on SOG Sync	1/1	0 - 2	
Group 512	**RGB Video (480p)**				
2	H Back Porch		123/123	0 ~ 4095	
3	V Back Porch		36/36	0 ~ 4095	
7	Overscan		48/48	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 513	**RGB Video (575p)**				
2	H Back Porch		133/133	0 ~ 4095	
3	V Back Porch		44/44	0 ~ 4095	
7	Overscan		38/38	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 514	**RGB Video (720p - 60)**				
2	H Back Porch		300/300	0 ~ 4095	
3	V Back Porch		25/25	0 ~ 4095	
7	Overscan		24/24	0 - 255	
8	VSBEG		8/10	0 - 255	
Group 515	**RGB Video (720p - 50)**				
2	H Back Porch		298/298	0 ~ 4095	
3	V Back Porch		25/25	0 ~ 4095	
7	Overscan		24/24	0 - 255	
8	VSBEG		8/10	0 - 255	
Group 516	**RGB Video (1080i - 60)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		20/20	0 ~ 4095	
7	Overscan		26/26	0 - 255	
8	VSBEG		8/11	0 - 255	
15	Field Diff (SEP)	Even/Odd Phase Compensation on HV Sync	1/1	0 - 2	
16	Field Diff (SOG)	Even/Odd Phase Compensation on SOG Sync	1/1	0 - 2	
Group 517	**RGB Video (1080i - 50)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		22/22	0 ~ 4095	
7	Overscan		24/24	0 - 255	

Group/ Item	Item Name	Function	Initial	Range	Note
8	VSBEG		8/9	0 - 255	
15	Field Diff (SEP)	Even/Odd Phase Compensation on HV Sync	1/1	0 - 2	
16	Field Diff (SOG)	Even/Odd Phase Compensation on SOG Sync	1/1	0 - 2	
Group 519	**RGB Video (1080p - 60)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		41/41	0 ~ 4095	
7	Overscan		22/25	0 - 255	
8	VSBEG		8/5	0 - 255	
Group 520	**RGB Video (1080p -50)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		41/41	0 ~ 4095	
7	Overscan		22/25	0 - 255	
8	VSBEG		8/5	0 - 255	
Group 521	**RGB Video (1080p - 30)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		41/41	0 ~ 4095	
7	Overscan		24/25	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 522	**RGB Video (1080p - 25)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		41/41	0 ~ 4095	
7	Overscan		24/25	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 523	**RGB Video (1080p - 24)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		41/41	0 ~ 4095	
7	Overscan		24/25	0 - 255	
8	VSBEG		8/8	0 - 255	
Group 526	**RGB Video (1080PSF - 24)**				
2	H Back Porch		242/242	0 ~ 4095	
3	V Back Porch		20/20	0 ~ 4095	
7	Overscan		22/22	0 - 255	
8	VSBEG		8/8	0 - 255	
15	Field Diff (SEP)	Even/Odd Phase Compensation on HV Sync	1/1	0 - 2	
16	Field Diff (SOG)	Even/Odd Phase Compensation on SOG Sync	1/1	0 - 2	
Group 530	**Composite (NTSC) For Composite / S-Video**				
2	H Back Porch		78/78	0 ~ 4095	
3	V Back Porch		18/18	0 ~ 4095	
7	Overscan		54/54	0 - 255	
Group 531	**Composite (PAL) For Composite / S-Video**				
2	H Back Porch		2/2	0 ~ 4095	
3	V Back Porch		20/20	0 ~ 4095	
7	Overscan		70/70	0 - 255	
Group 540	**YCbCr (480i)**				
2	H Back Porch		124/124	0 ~ 4095	
3	V Back Porch		18/18	0 ~ 4095	
7	Overscan		36/36	0 - 255	
8	VSBEG		8/8	0 - 255	
16	Field Diff (SOG)	Even/Odd Phase Compensation	1/1	0 - 2	
Group 541	**YCbCr (575i)**				
2	H Back Porch		134/134	0 ~ 4095	
3	V Back Porch		23/23	0 ~ 4095	
7	Overscan		52/52	0 - 255	
8	VSBEG		8/8	0 - 255	
16	Field Diff (SOG)	Even/Odd Phase Compensation	1/1	0 - 2	
Group 542	**YCbCr (480p)**				
2	H Back Porch		125/125	0 ~ 4095	
3	V Back Porch		38/38	0 ~ 4095	
7	Overscan		30/30	0 - 255	
8	VSBEG		8/8	0 - 255	
Group 543	**YCrCb (575p)**				
2	H Back Porch		133/133	0 ~ 4095	
3	V Back Porch		44/44	0 ~ 4095	
7	Overscan		22/22	0 - 255	
8	VSBEG		8/8	0 - 255	
Group 544	**YCrCb (720p - 60)**				
2	H Back Porch		300/300	0 ~ 4095	
3	V Back Porch		26/26	0 ~ 4095	
7	Overscan		26/26	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 545	**YCrCb (720p - 50)**				
2	H Back Porch		298/298	0 ~ 4095	
3	V Back Porch		26/26	0 ~ 4095	

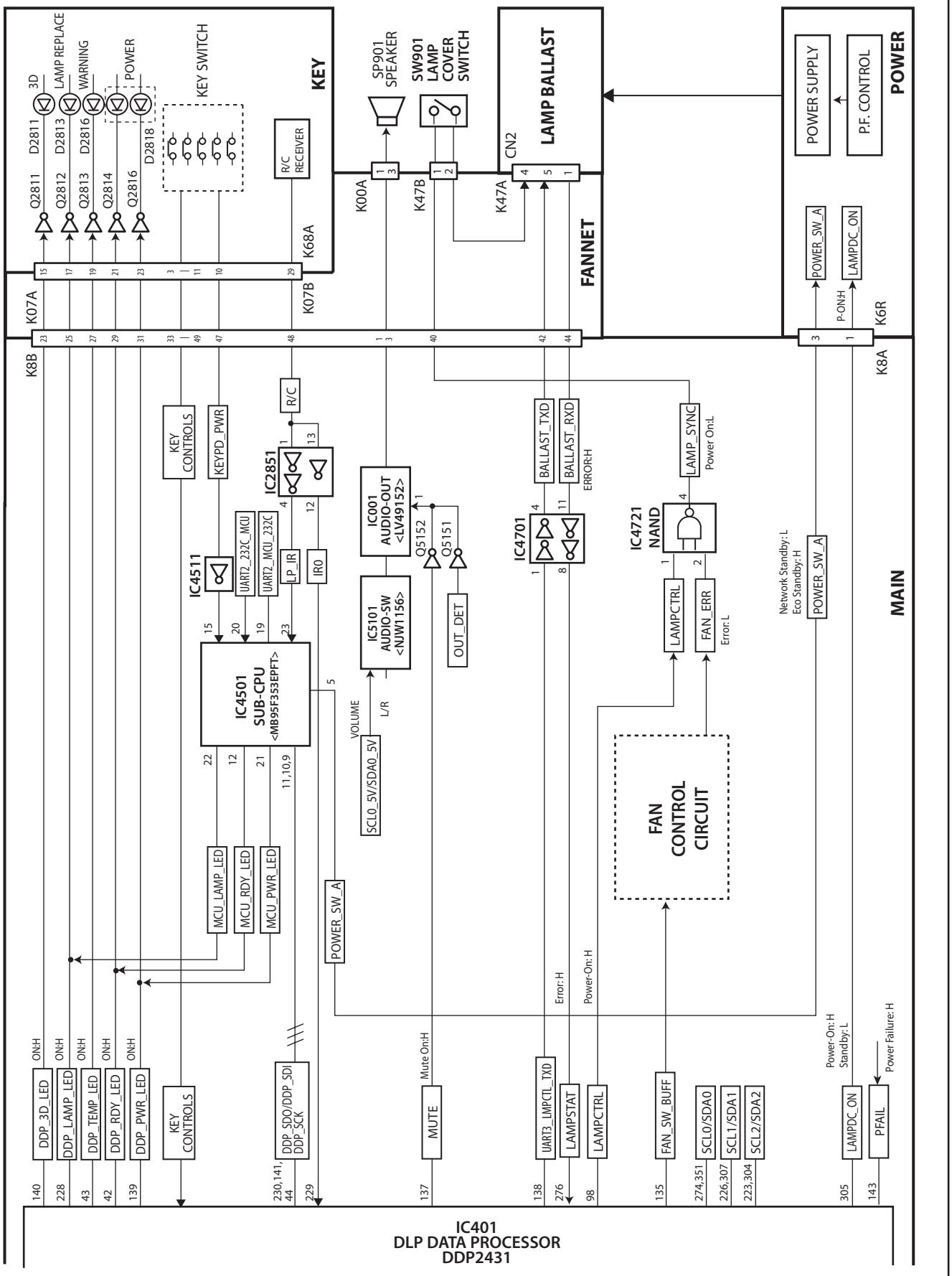
Group/ Item	Item Name	Function	Initial	Range	Note
7	Overscan		26/26	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 546	**YCrCb (1080i - 60)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		20/20	0 ~ 4095	
7	Overscan		26/26	0 - 255	
8	VSBEG		8/9	0 - 255	
16	Field Diff (SOG)	Even / Odd Phase Compensation	1/1	0 - 2	
Group 547	**YCbCr (1080i - 50)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		20/20	0 ~ 4095	
7	Overscan		26/26	0 - 255	
8	VSBEG		8/9	0 - 255	
16	Field Diff (SOG)	Even/Odd Phase Compensation	1/1	0 - 2	
Group 549	**YCrCb (1080p - 60)**				
2	H Back Porch		234/234	0 ~ 4095	
3	V Back Porch		42/42	0 ~ 4095	
7	Overscan		28/28	0 - 255	
8	VSBEG		8/8	0 - 255	
Group 550	**YCrCb (1080p - 50)**				
2	H Back Porch		234/234	0 ~ 4095	
3	V Back Porch		42/42	0 ~ 4095	
7	Overscan		28/28	0 - 255	
8	VSBEG		8/8	0 - 255	
Group 551	**YCrCb (1080p - 30)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		42/42	0 ~ 4095	
7	Overscan		26/26	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 552	**YCrCb (1080p - 25)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		42/42	0 ~ 4095	
7	Overscan		26/26	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 553	**YCrCb (1080p - 24)**				
2	H Back Porch		236/236	0 ~ 4095	
3	V Back Porch		42/42	0 ~ 4095	
7	Overscan		26/26	0 - 255	
8	VSBEG		8/9	0 - 255	
Group 900	**Lamp Option**				
0	Lamp Replace Display	Lamp Warning Display On/Off 0: Off, 1: On	1	0 - 1	
1	Lamp Go Out		0	0 - 1	
Group 901	**Lamp Warning Time**				
0	Lamp Warning Time (Normal)	Lamp Life at Normal (x 500)	4	1 - 16	
1	Lamp Warning Time (Eco)	Lamp Life at Eco (x 500)	6	1 - 16	
Group 902	**Lamp Reset Counter**				
0	Lamp Counter Reset Times	Reset Times	-	0 - 255	

Chassis Block Diagrams

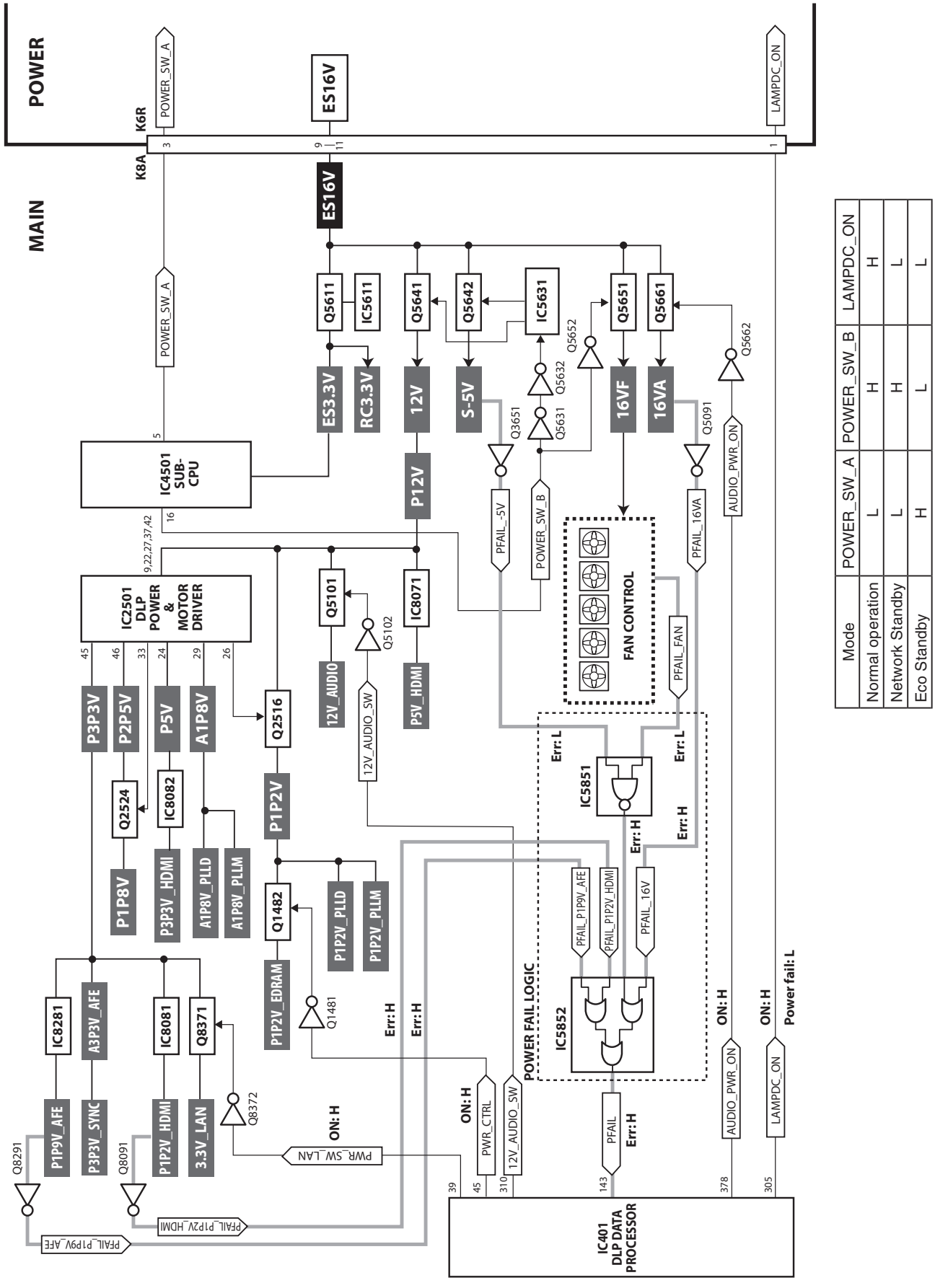
Chassis overview



System control

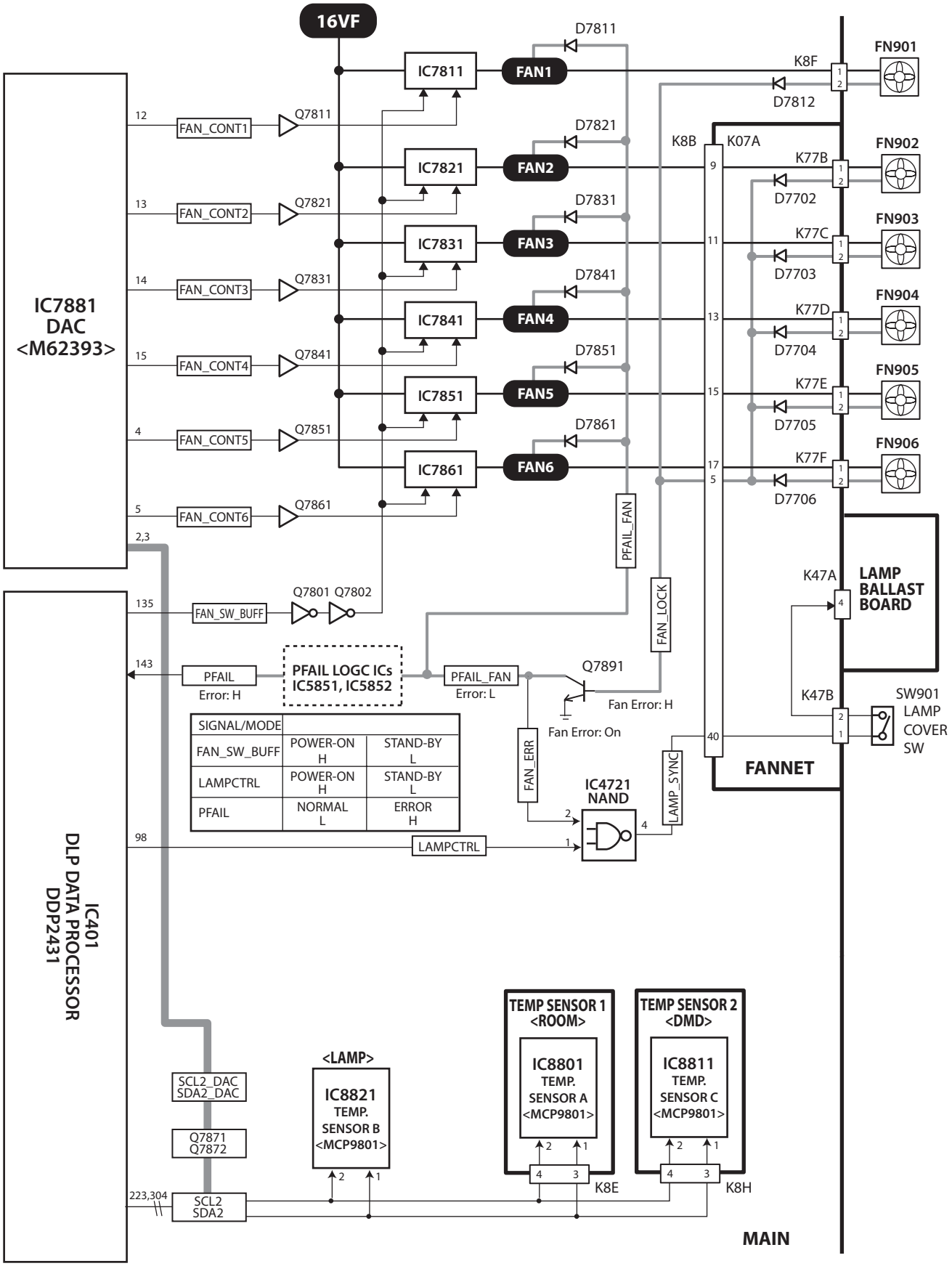


Power supply & protection circuit



Mode	POWER_SW_A	POWER_SW_B	LAMPDC_ON
Normal operation	L	H	H
Network Standby	L	H	L
Eco Standby	H	L	L

Fan control circuit



Troubleshooting

Indicators and projector condition

Each indicator on the projector indicates the operating status of the projector. If you find the un-expected operation during usage, check the projector's operation with the tables below. The indicators also let you know the maintenance sign. To use the projector in the best performance for a long period of time, take an adequate maintenance according to the indicator status.

ON(G)/STANDBY(R) indicator

Indicator status		Status
No illumination or flashing		The power cord is unplugged.
RED	Lit	The power cord is plugged.
		The projector is in stand-by mode, after the cooling is completed.
	Flashing	The projector cannot be turned on until the normal power-off processing for fan cooling is completing and the <ON(G)/STANDBY(R) >indicator stops blinking.
		The temperature inside the projector is abnormally high. And the <WARNING >indicator also blinks in red. The projector cannot be turned on until cooling is completing and the <ON(G)/STANDBY(R)/ > indicator stops blinking.
GREEN	Lit	Projecting.
	Flashing	The projector is in the power management mode.

LAMP indicator

Indicator	Lighting in yellow
Status	The projection lamp reaches its end of life.
Check	Is there a lamp replacement icon appears on the screen?
Remedy	Replace the lamp unit.

WARNING indicator

Indicator	Lights in red.	Blinks in red.
Status	The projector detects an abnormal condition and cannot be turned on.	The temperature inside the projector is abnormally high. The projector cannot be turned on. And the <ON(G)/STANDBY(R)> indicator also blinks in red.
Check	Unplug the AC power cord and plug it again to tuwrn on the projector.	- Did you provide appropriate space for the projector to be ventilated? Check the installing condition to see if the air vents of the projector are not blocked. - Has the projector been installed near an Air-Conditioning/ Heating Duct or Vent? - Is the filter clean?
Remedy	If the projector is turned off again, the projector may have the internal error. It needs to check up or servicing.	- Provide good installing condition to your projector. - Move the installation of the projector away from the duct or vent. - Replace filter unit.

Note:
- If <WARNING> indicator persists to light or blink after taking these measurements, the projector may have the internal error. Do not leave the projector on. It may cause an electric shock or a fire hazard.
- The projector detects an abnormal condition and cannot be turned on. Unplug the AC power cord and plug it again to turn on the projector. If the projector is turned off again, the projector may be defective. Do not leave the projector on. It may cause an electric shock or a fire hazard.

No power

This projector provides a function which can be specified a defective area simply by indicating the LEDs. Connect the AC cord and press the ⏻/| button once and then check the LED indication.

- **When all of LED indicators are not lighting**, the symptom indicates that the primary power supply circuit does not operate properly. Check the power primary circuit and parts as follow;
  AC cord, F601 (fuse), Line filter board, Power board,SW902 (Thermal fuse)
  SW902 opens when the surrounding temperature of the fuse exceeds 128°C.

- **When the WARNING (red) and ON(G)/STANDBY(R) (red) indicators are blinking**, the symptom indicates that the projector detected an abnormal temperature risen inside the projector. Check the air filter and remove the object near the intake and exhaust fan openings, and wait until the ON(G)/STANDBY(R) indicator stops blinking, and then try to turn on the projector.
  The internal temperature is monitored by sensor ICs, IC8801 on the Temp Sensor 1 board, IC8811 on the Temp Sensor 2 board, IC8821 on the Main board.

- **When the WARNING indicator lights red**, the symptom indicates that the projector detected an abnormality in the cooling fan operation or in the power supply secondary circuits. Check fan operation and power supply lines, and the driving signal status.
  The PFAIL signal (Error: H) is sent to pin 143 of IC401<DLP DATA PROCESSOR> when the abnormality occurred inside the projector, and then the IC401 sends the shutdown signal, LAMPDC_ON, to the power supply circuit to stop its operation, and signal LAMPSYNC is supplied to the lamp ballast board via SW901<lamp cover switch> to stop operation of the lamp circuit. The LAMPSYNC signal is output from pin 98 of IC401 as the name of LAMPCTRL signal.

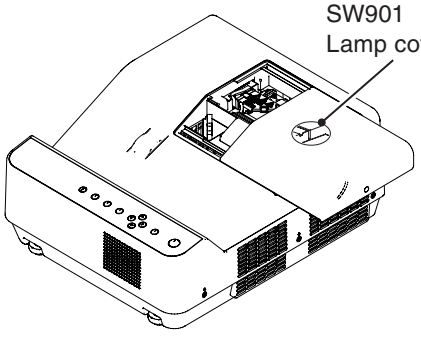
An abnormality occurs on the secondary power supply;
Check power supplies 12V, S-5V, 16VF, 16VA. The PFAIL signal becomes “High” when the abnormality occurs on any of the power supply lines.

An abnormality occurs on the fan control circuit;
Check FN901, FN902, FN903, FN904, FN905, FN906 and 16VF and peripheral circuit.
If any of the fans has an error, the fan lock signal drives Q7891 becomes "High". As the result, signal PFAIL_FAN becomes Low. This error signal is supplied to the P-Fail logic ICs and it is finally supplied to the pin 143 of IC401 as the PFAIL signal.

An abnormality occurs on the drive signals;
The table below shows the driving signal of each power supply.

Driving signal	IC output	Pin No.	I/O	Level	Swich/IC	Power/Circuit
PWR_SW_LAN	IC401	39	O	H	Q8372	3.3V_LAN
PWR_CTRL		45	O	H	Q1482	P1P2V_EDRAM
12V_AUDIO_SW		310	O	H	Q5101	12V_AUDIO
AUDIO_PWR_ON		378	O	H	Q5661	16VA
POWER_SW_B	IC4501	16	O	H	IC5631 Q5651	S-5V S12V S16VF
LAMPDC_ON	IC401	305	O	H	IC621 PC661	PFC
LAMPSTAT		276	I	H	IC401	Lamp ballast

Lamp cover switch
Make sure that the lamp cover is mounted correctly. If not or the lamp cover removed, the lamp does not light on for the safety. Check the lamp cover and lamp cover switch (SW901).



No picture

Check following steps.

No picture with all of input sources — Yes → Check signal processing stage and DMD driving stage;
Check IC401 <DLP Data Processor>, IC2501 <DMD Power&Motor Drive>, IC3501 <DMD Power&Reset Drive> or DMD module and peripheral circuits.

No

No picture with COMPUTER1 [RGB] input source only — Yes → Check IC8201 <A/D Converter> and peripheral circuit.
The R1_IN, G1_IN, B1_IN, H1_IN,V1_IN signals are applied to pins 11, 2, 18, 81, 78.

No

No picture with COMPUTER2 [RGB] input source only — Yes → Check IC8201 <A/D Converter> and peripheral circuit.
The R2_IN, G2_IN, B2_IN, H2_IN,V2_IN signals are applied to pins 10, 100, 17, 82, 79.

No

No picture with all of computer input sources — Yes → Check PC/AV source selecting stage and processing stage;
Check IC8201 <A/D Converter> and IC401 <DLP Data Processor> and peripheral circuit.

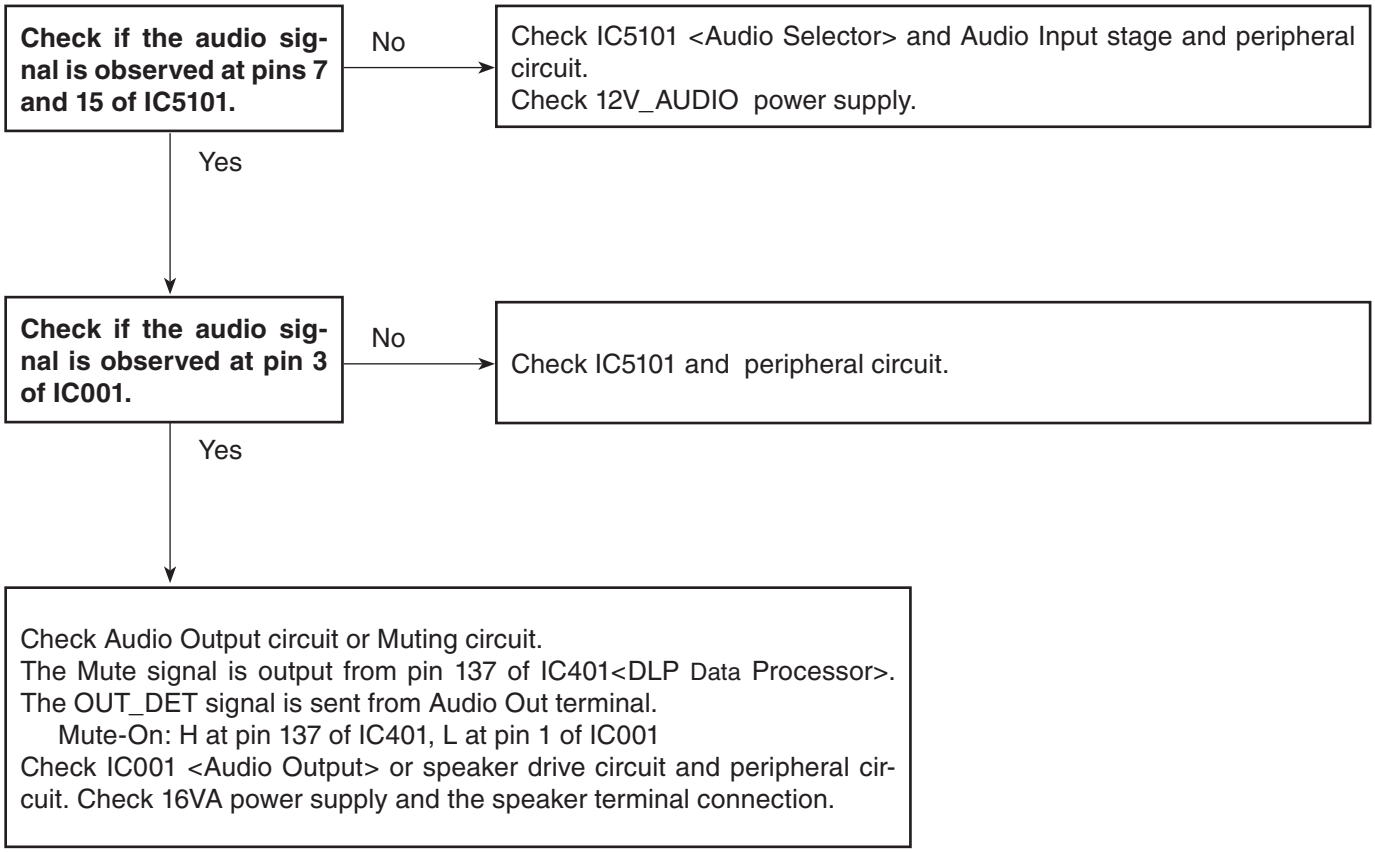
No

No picture with video input sources →

Check AV source selecting and decoding stage;
Check IC8201 <A/D Converter> and IC401 <DLP Data Processor> and peripheral circuit.
S-Video source
Check S-video signal (Y/C).
SC_IN signal is applied to pin 9 of IC8201, and SY_IN signal is applied on pin 98 of IC8201.
Composite video source
Check composite video signal (Video).
The CVBS signal is applied to pin 16 of IC8201.
The SCART_CV signal is applied to pin 97 of IC8201.

No sound

Check following steps.


Check if the audio signal is observed at pins 7 and 15 of IC5101.
No
Check IC5101 <Audio Selector> and Audio Input stage and peripheral circuit.
Check 12V_AUDIO power supply.
Yes
Check if the audio signal is observed at pin 3 of IC001.
No
Check IC5101 and peripheral circuit.
Yes
Check Audio Output circuit or Muting circuit.
The Mute signal is output from pin 137 of IC401<DLP Data Processor>.
The OUT_DET signal is sent from Audio Out terminal.
Mute-On: H at pin 137 of IC401, L at pin 1 of IC001
Check IC001 <Audio Output> or speaker drive circuit and peripheral circuit. Check 16VA power supply and the speaker terminal connection.

Error log

This projector provides the error history log function. To check the logs, you need to enter the service mode and select the group "220" and no. "0" to "49". The error code is displayed on the data column. The description of the error code is listed on the table below.

* How to enter the service mode and select the group, item and data value, see "Service adjustment menu operation".

Group No.	Item No.	Data (Error Code)
220	0	✻ <- Latest Error
	1	✻
	2	✻
	3	✻
	:	:
	:	:
	49	✻

Error	Error code	Error infomation	
Normal	0	-	
Power Failure	1000	MAIN, P_FAIL	Errors on the power supply lines or Fan control
	1001	WHEEL, ERROR	Error on the color wheel
Temperature Error	2000	Sensor A detects abnormal temperature. (IC8801-ROOM)	
	2001	Sensor A fails measurement. (IC8801)	
	2100	Sensor B detects abnormal temperature. (IC8821-LAMP)	
	2101	Sensor B fails measurement. (IC8821)	
	2102	Sensors B-A temperature error.	
	2200	Sensor C detects abnormal temperature. (IC8811-DMD)	
	2201	Sensor C fails measurement. (IC8811)	
	2202	Sensors C-A temperature error.	
Lamp Error	3000	Lamp1 fails on	
	3001	Lamp1 goes out	
	3002	Communication Error on Lamp1	

How to reset the error log

1. Enter the service mode, and select the group "220" and no. "50".
2 The history log will be reset when the data value is set to "10". The value automatically returns to "0".

* How to enter the service mode and select the group, item and data value, see "Service adjustment menu operation".

Control Port Functions

System control (DDP, IC401)

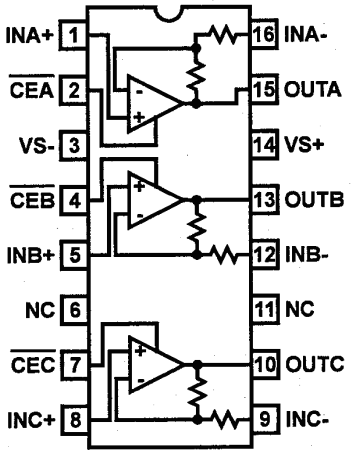
PIN NO.	PORT NO.	SIGNAL NAME	DESCRIPTION	I/O
98	D1	LAMPCTRL	Lamp On: H	O
276	D3	LAMPSTAT	Lamp Error: H	I
190	E2	USB_DAT_PS	USB	I
275	E3	USB_DAT_NS	USB	I
274	F3	SCL0	IIC Bus Control Clock	O
351	F4	SDA0	IIC Bus Control Data	I/O
304	M23	SDA2	IIC Bus Control Data	I/O
223	M24	SCL2	IIC Bus Control Clock	O
134	M25	UART1_MCI_DDP	Serial Control Rxd	I
37	M26	UART1_DDP_MCI	Serial Control Txd	O
192	N2	CWINDEX	Color Wheel Index	O
267	N3	CW_PWM	Color Wheel PWM	O
378	N22	AUDIO_PWR_ON	Audio Power Drive Power-On: H	O
305	N23	LAMPDC_ON	Lamp Power Drive Power-On: H	O
224	N24	UART_SELECT	Serial Select	O
135	N25	FAN_SW_BUFF	Fan Power Drive Power-On: H	O
181	P2	A_DDCSW1	DDC Switch	O
39	P26	PWR_SW_LAN	LAN Power Drive Power-On: H	O
307	R23	SDA1	IIC Bus Control Data	I/O
226	R24	SCL1	IIC Bus Control Clock	O
137	R25	MUTE	Sound Mute Output	O
40	R26	S_SW	S-Video Detect Input	I
138	T25	UART3_LMPCTL_TXD	Serial Control Txd	O
309	U23	3D_TOGGLE	3D Switch	O
228	U24	DDP_LAMP_LED	Lamp LED Drive	O
139	U25	DDP_PWR_LED	Power LED Drive	O
42	U26	DDP_RDY_LED	Ready LED Drive	O
310	V23	12V_AUDIO_SW	12V Audio Power Drive Power-On: H	O
229	V24	IR0	Remote Control Input	I
140	V25	DDP_3D_LED	3D LED Drive	O
43	V26	DDP_TEMP_LED	Warning LED Drive	O
311	W23	SCART_SW	SCART Input Switch	O
230	W24	DDP_SDC	3 Serial Data Output	O
141	W25	DDP_SDI	3 Serial Data Input	I
44	W26	DDP_SCK	3 Serial Clock	O
142	Y25	UART2_DDP_232C	Serial Control Txd	O
45	Y26	PWR_CTRL	RAM Power Drive	O
143	AA25	PFAIL	Power Fail Detection Input H: Error	I
45	AA26	UART2_232C_DDP	Serial Control Rxd	I
329	AC9	P1_FIELD	Field Input	I
328	AC10	P1_VSYNC	VSYNC Input	I
320	AC18	ALF_HSYNC	HSYNC Input	I
320	AC20	KEYPD_KEYSTONE	Key COntrol Input KeyStone	I
317	AC21	KEYPD_SETUP	Key Control Input Setup	I
230	AD9	P1_HSYNC	HSYNC Input	I
240	AD19	ALF_VSYNC	VSYNC Input	I
239	AD20	KEYPD_SEL	Key Control Input Select	I
238	AD21	KEYPD_DOWN	Key Control Input Down	I
237	AD22	CABLE_SW	Cable Switch Drive	O
152	AE20	KEYPAD_PWR_DDP	Key Control Input Pwer	I
151	AE21	KEYPAD_UP	Key Control Input Up	I
150	AE22	KEYPAD_RIGHT	Key Control Input +	I
57	AF19	ALF_CSYNC	CSYNC Input	I
56	AF21	KEYPD_MENU	Key Control Input Menu	I
55	AF22	KEYPD_LEFT	Key Control Input -	I
54	AF23	MONITOR_OUT	Monitor Out Switch Output	O

IIC bus D/A converter (Fan control, IC7881)

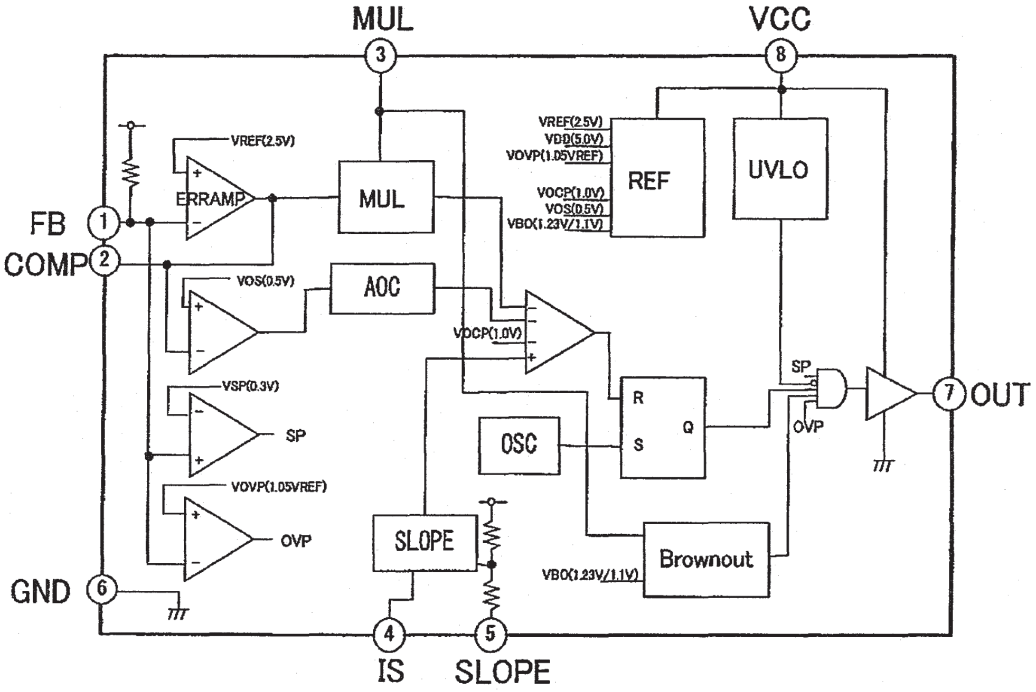
PIN NO.	FUNCTION NAME	FUNCTION	POL.	ACTION	
				Stand-by	Power On
1	Reset Input		I	->	
2	IIC BUS SCL		I	->	
3	IIC BUS SDA		I/O	->	
4	FAN_CONT5	FN905 Control Voltage (Power Box Exhaust Fan)	AO	->	0:FAN Max ~ 255:FAN Min
5	FAN_CONT6	FN906 Control Voltage (Color Wheel Intake Fan)	AO	->	0:FAN Max ~ 255:FAN Min
6				->	
7		FAN_FN902 Control Voltage (PBS Cooling)	AO	->	0:FAN Max ~ 255:FAN Min
8	GND		-	->	
9	DAC Upper Ref. Voltage(CH5~CH8)		-	->	
10	GND		-	->	
11	DAC Upper Ref. Voltage (CH1~CH4)		-	->	
12	FAN_CONT1	FN901 Control Voltage (Intake Fan)	AO	->	0:FAN Max ~ 255:FAN Min
13	FAN_CONT2	FN902 Control Voltage (Lamp Intake Fan Top)	AO	->	0:FAN Max ~ 255:FAN Min
14	FAN_CONT3	FN903 Control Voltage (Lamp Intake Fan Bottom	AO	->	0:FAN Max ~ 255:FAN Min
15	FAN_CONT4	FN904 Control Voltage (Lamp Exhaust Fan)	AO	->	0:FAN Max ~ 255:FAN Min
16	Power for Output Buffer (4.5V ~ 5.5V)		-	->	
17	Power Supply +5V±10%		-	->	
18	Slave Address Setting Pin2 (Vdd)		I	->	H
19	Slave Address Setting Pin1 (Vdd)		I	->	H
20	Slave Address Setting Pin0 (Vdd)		I	->	H

IC Block Diagrams

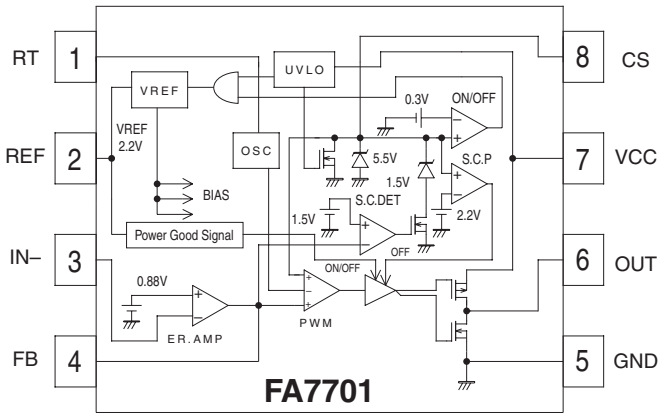
● EL5306IUZ <RGB switch, IC4001>



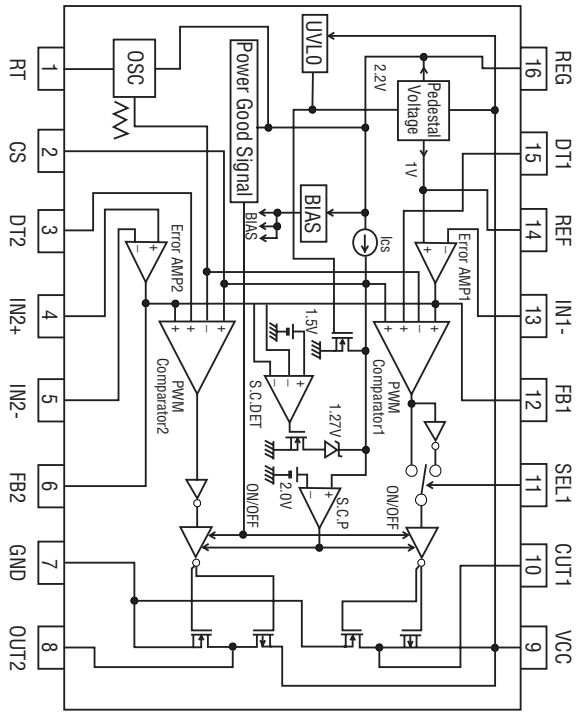
● FA5550NG <P.F. control, IC621>



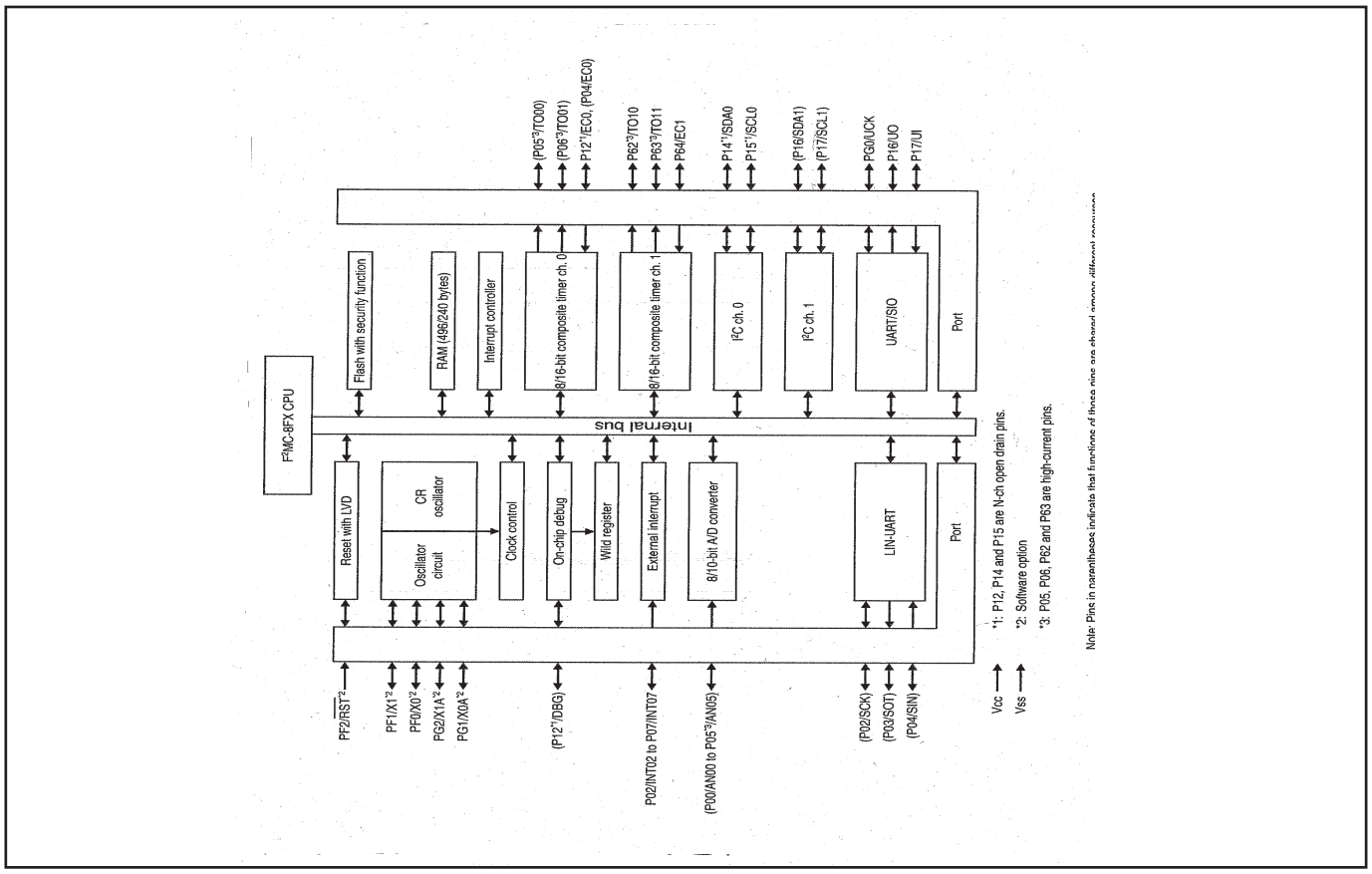
● FA7701 <DC-DC control, IC5611>



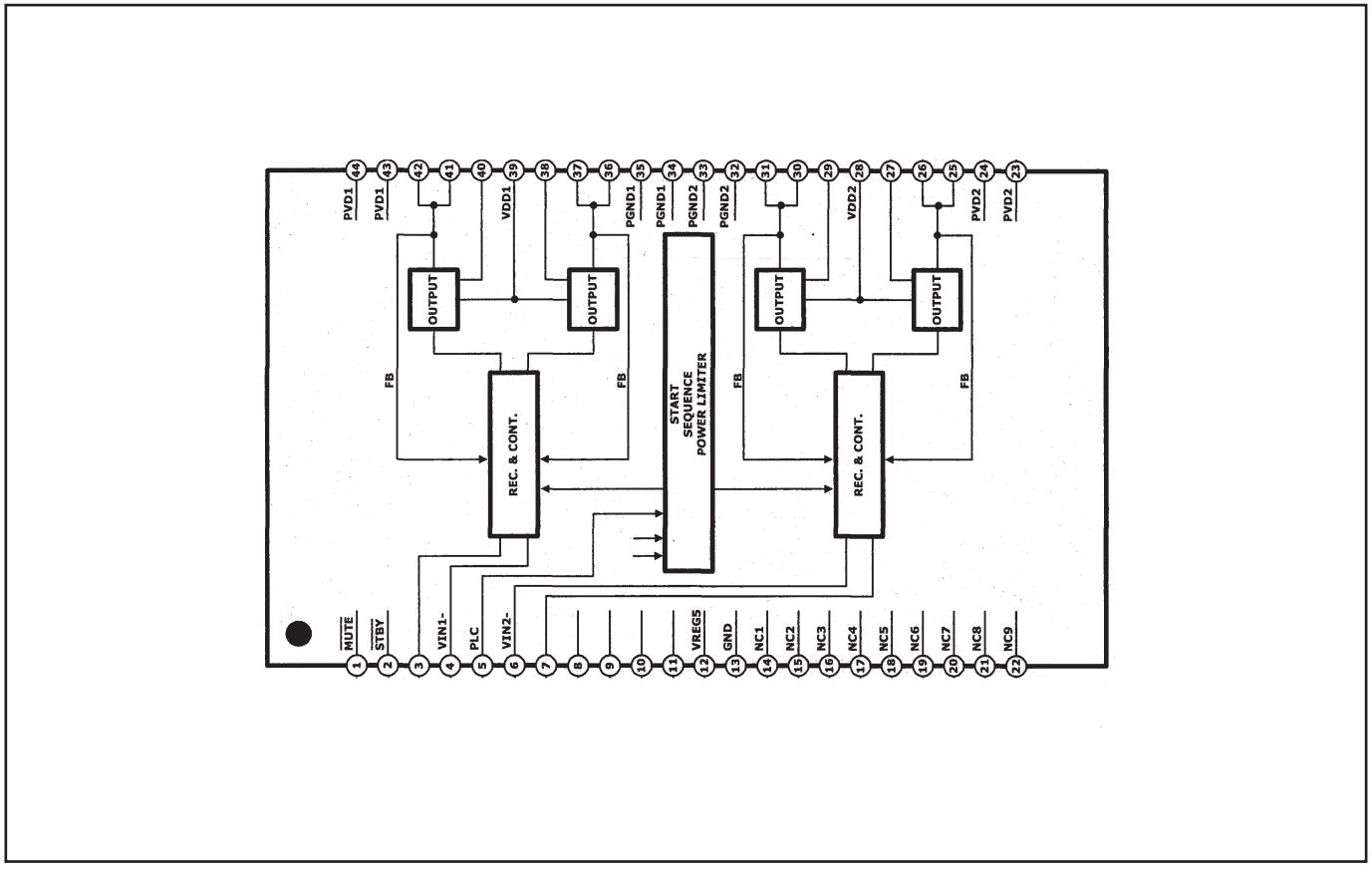
● FA7703 <DC-DC control, IC5631>



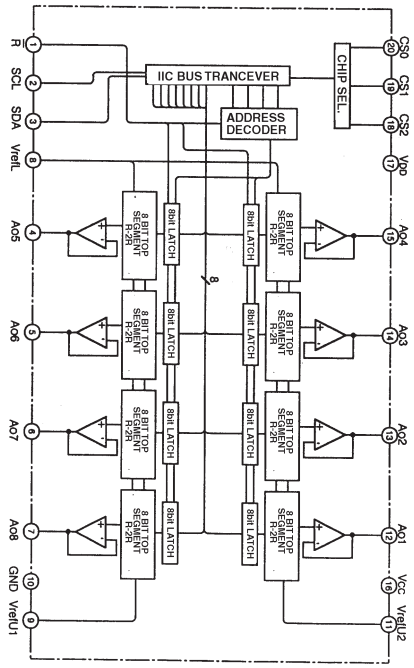
● MB95F353EPFT <Sub CPU, IC4501>



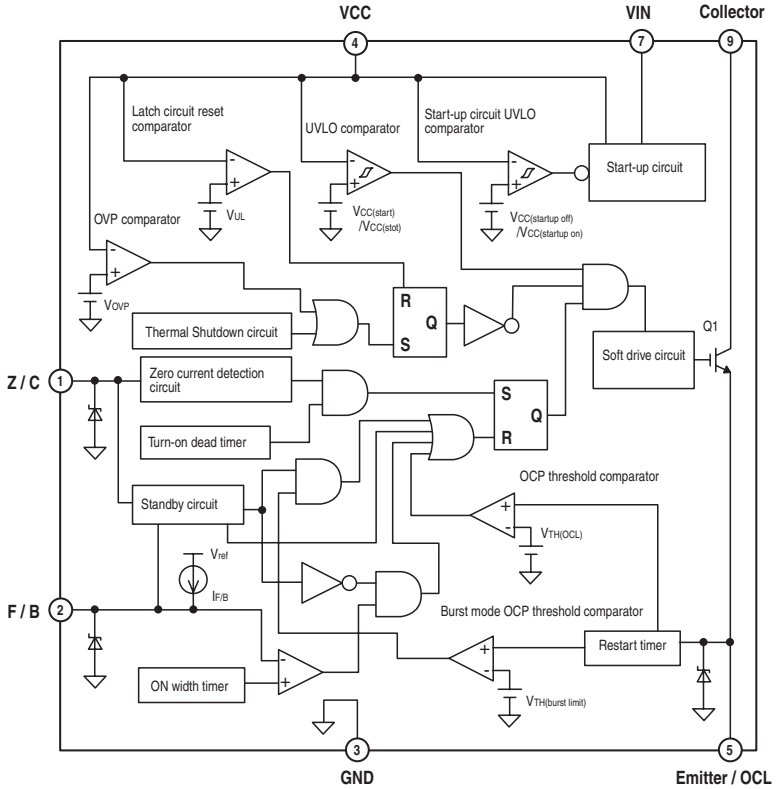
● LV49152V <Audio output, IC001>



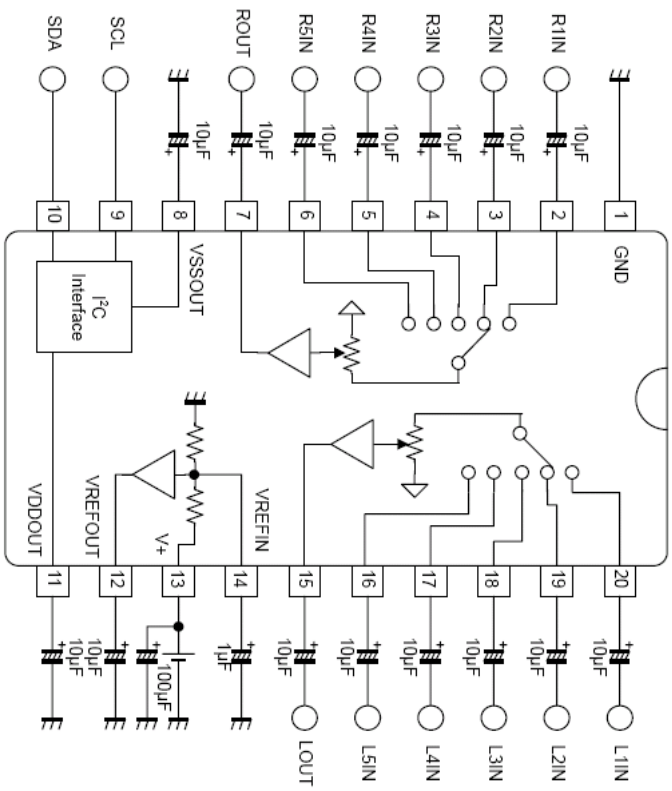
● M62393 <DAC,IC7881>



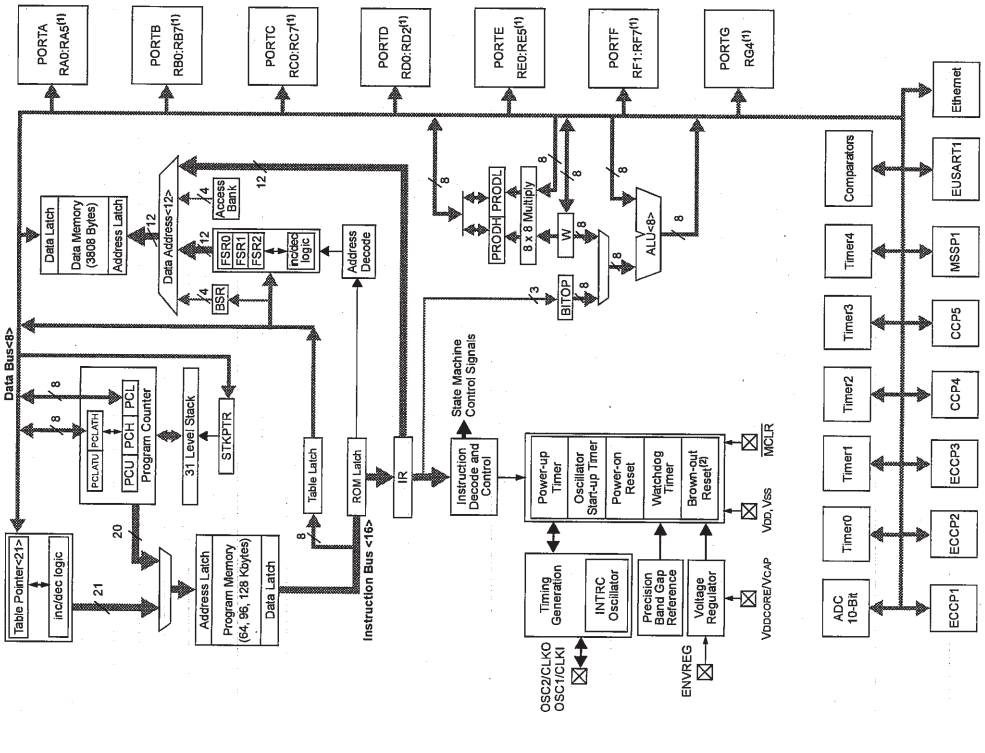
● MR4010 <Power switching, IC631>



● NJW1156 <Audio selector,IC5101>



● PIC18F67J60 <Network, IC8301>



Exploded Views
Parts List

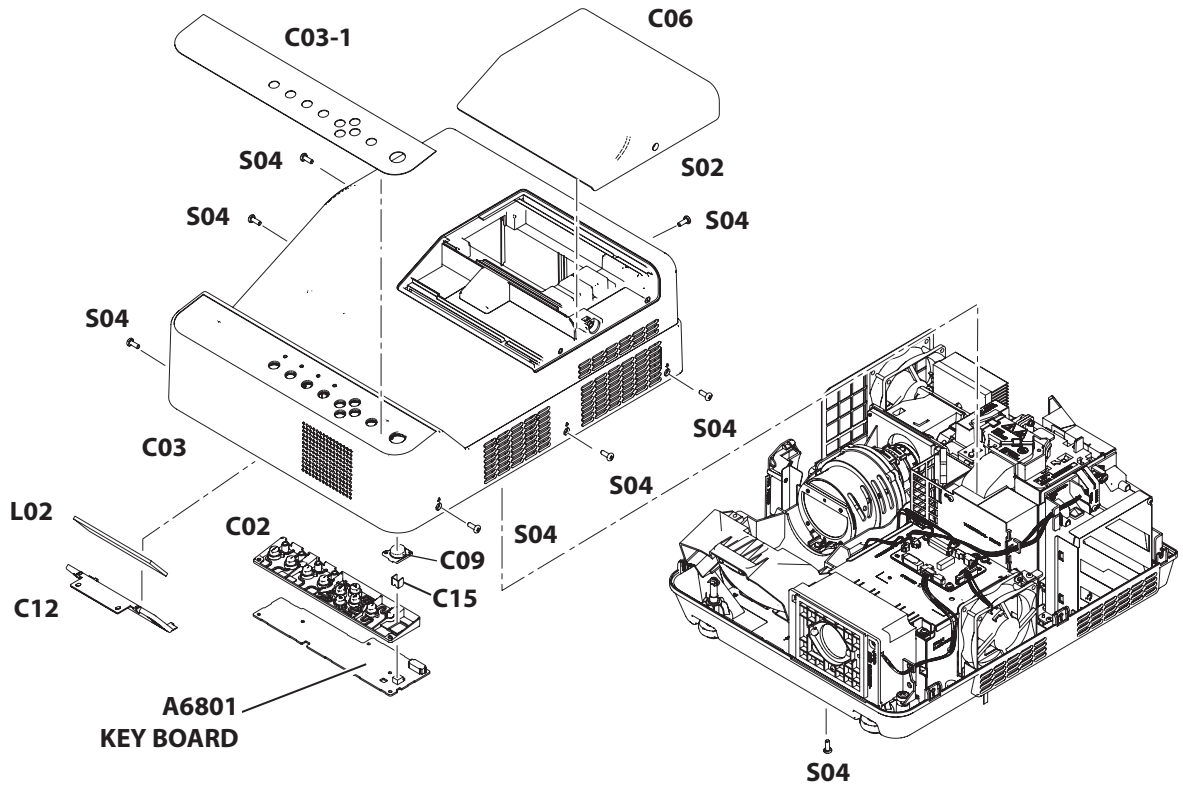
Models **PT-CW230U**
PT-CW230E
PT-CW230EA
PT-CX200U
PT-CX200E
PT-CX200EA

Impotant Safety Notice
Components identificated by the International symbol ⚠ have special characteristics impotant for safety.
When replacing any of these components, use only the manufacturer's specified parts.

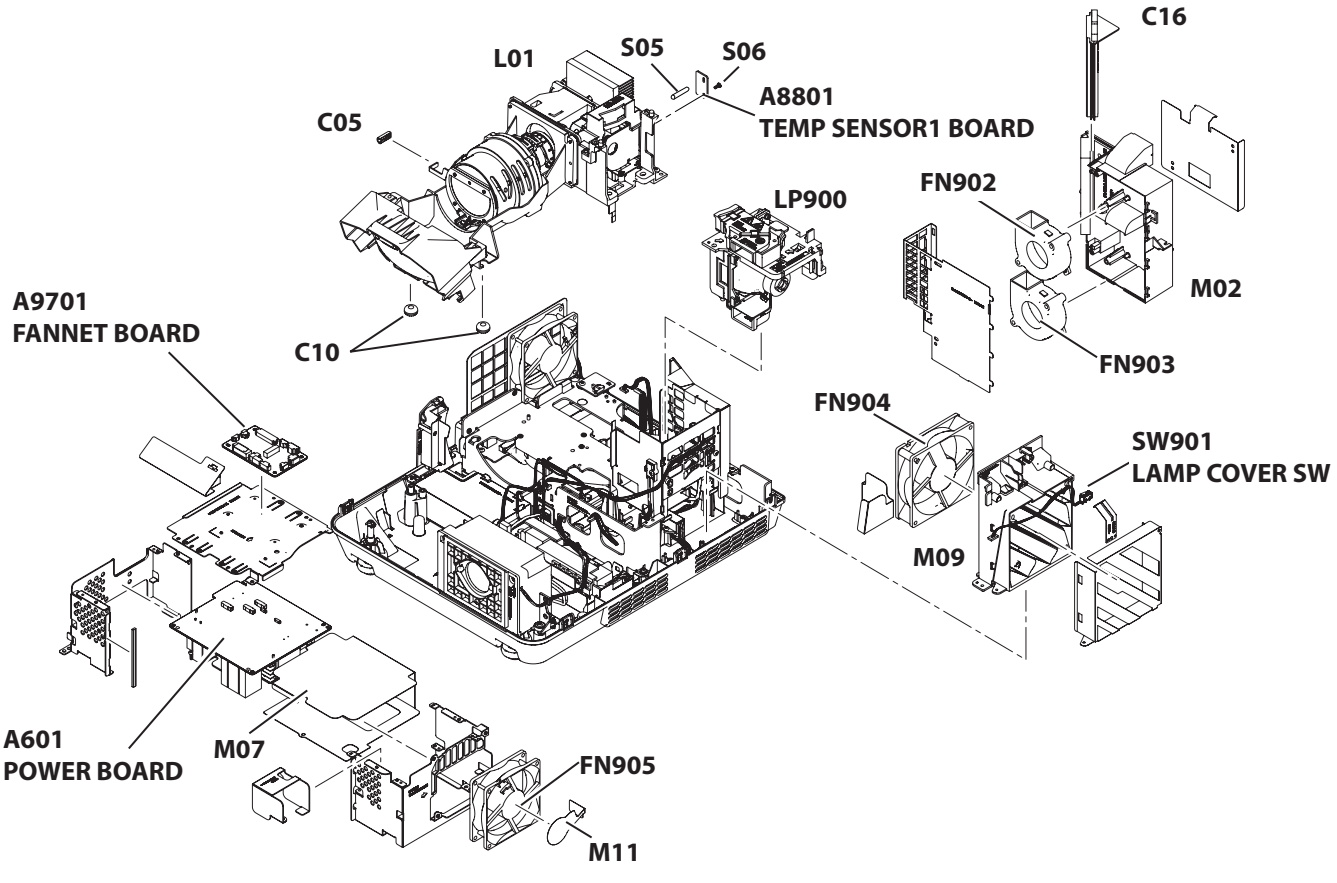
Before ordering the service parts, comfirm the parts number with the Ref. No in the parts list and the exploded view.

Exploded Views

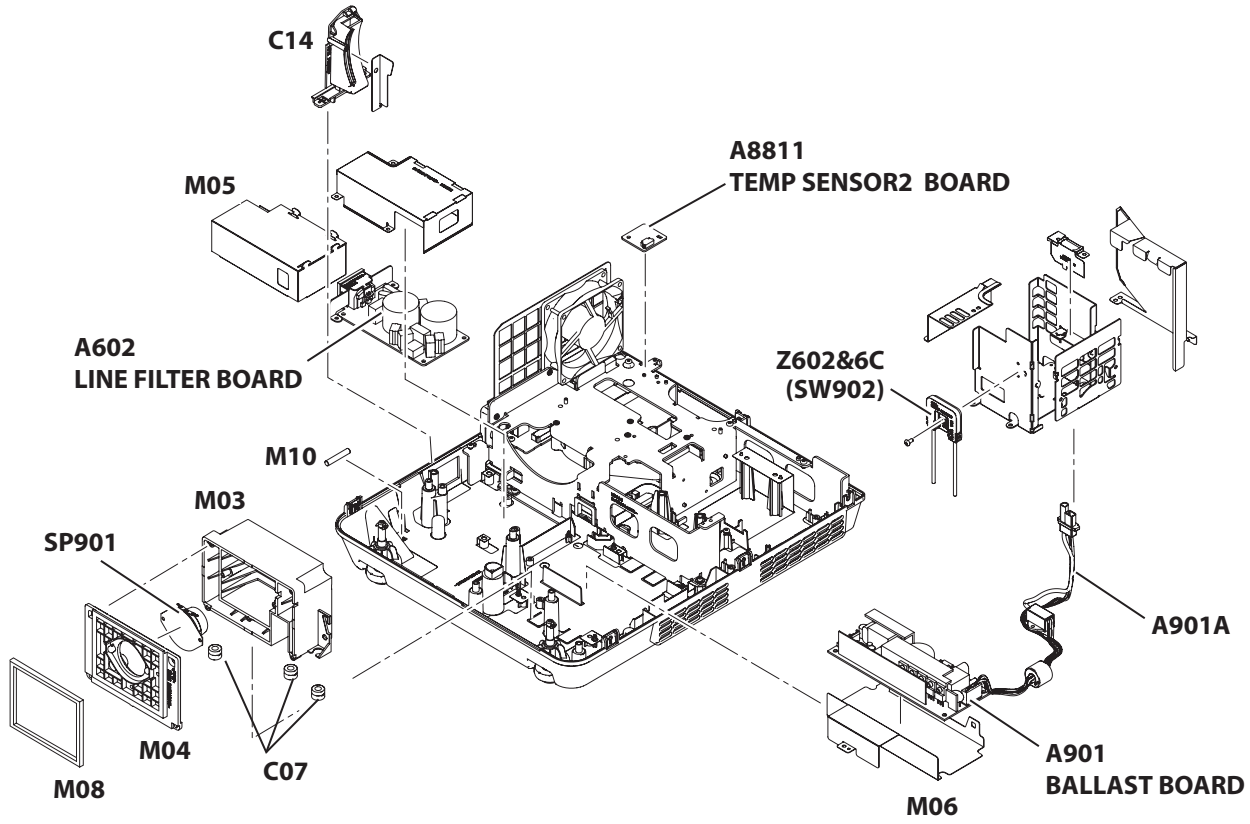
Cabinet top assembly



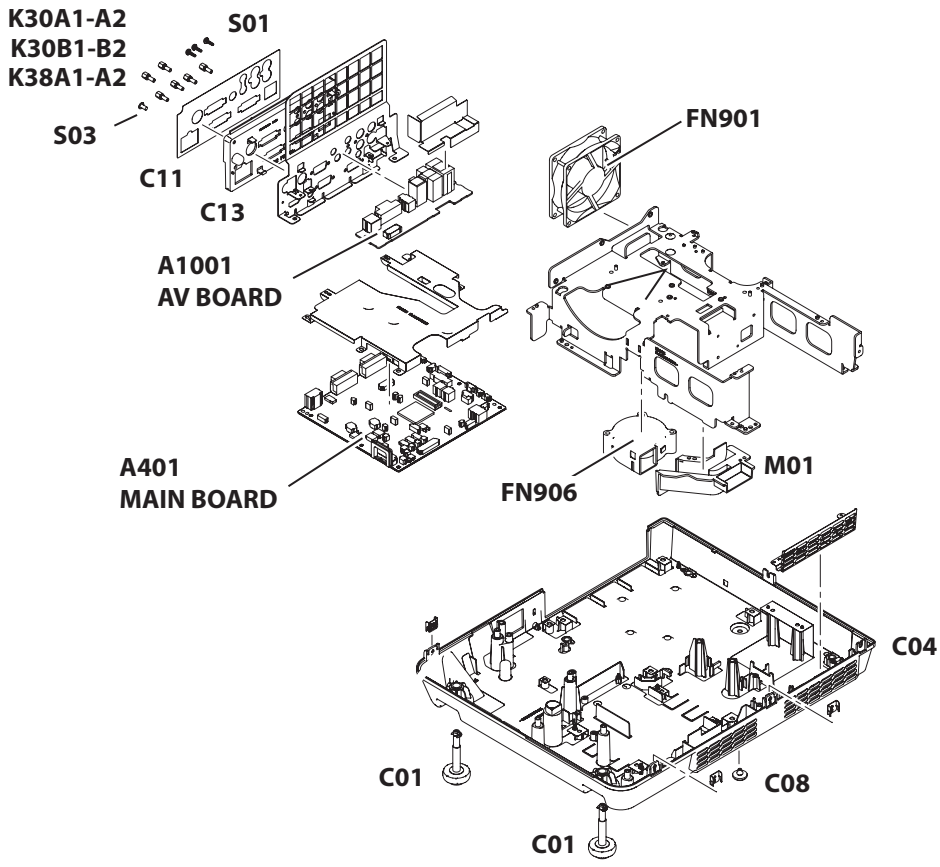
Cabinet bottom-1 assembly



Cabinet bottom-2 assembly

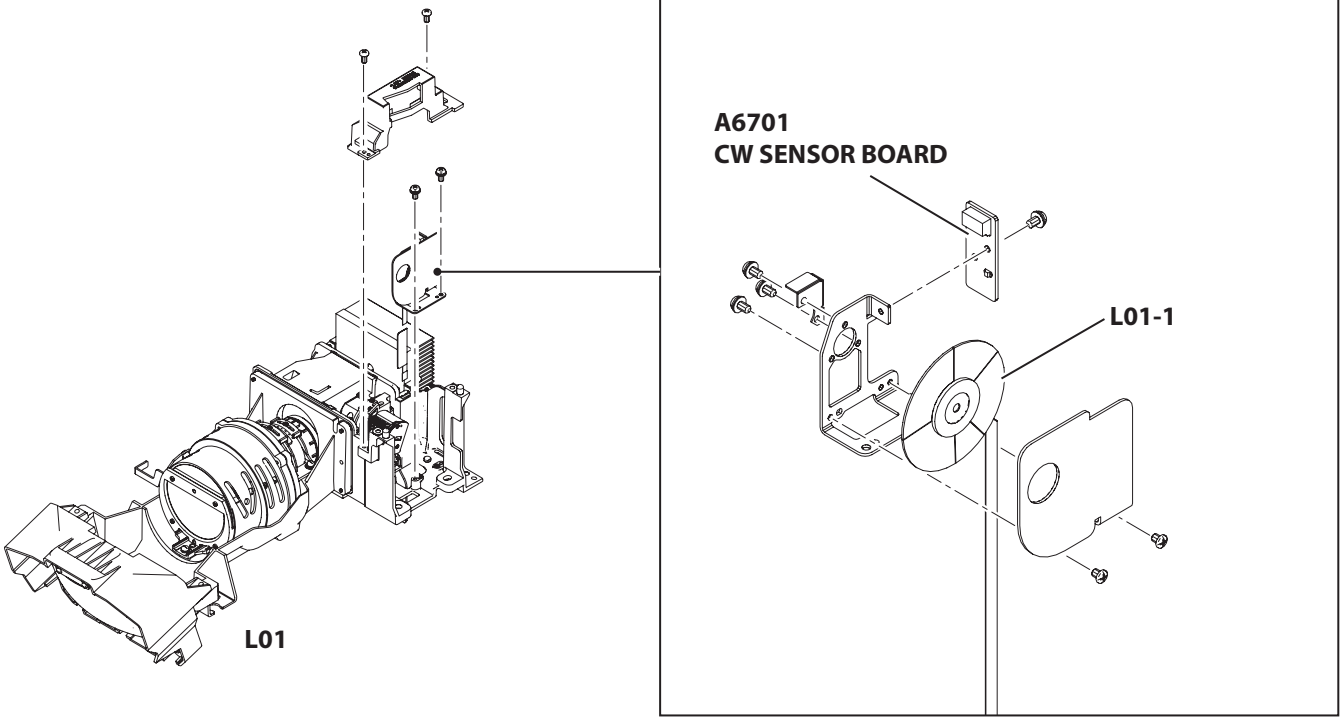


Cabinet bottom-3 assembly



Exploded Views

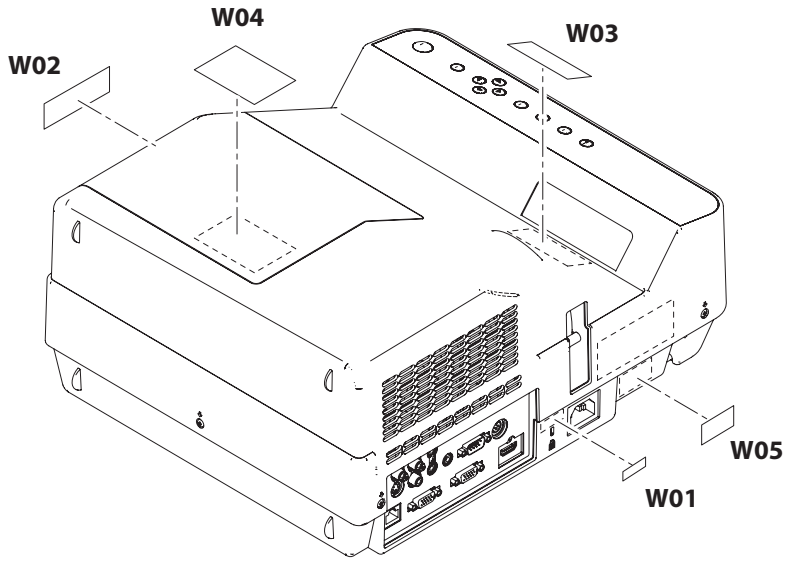
Color wheel



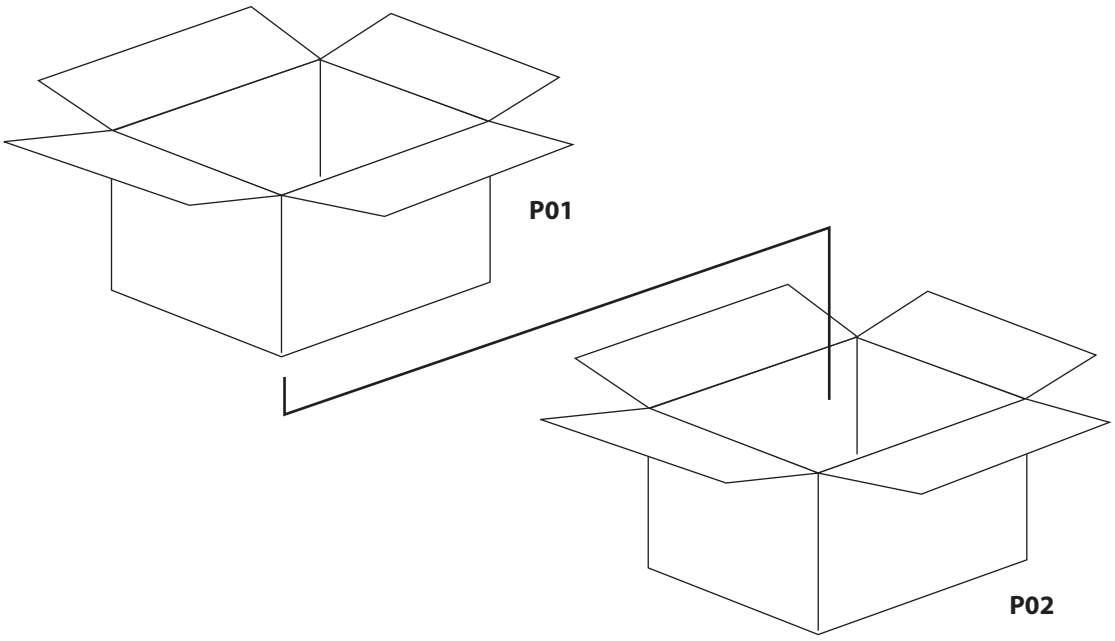
* L01 includes A7601 and L01-1.

Exploded Views

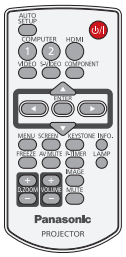
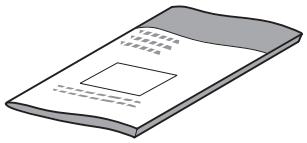
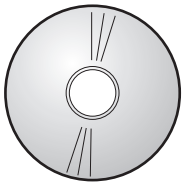
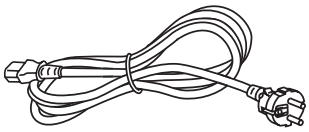
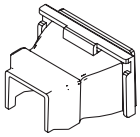
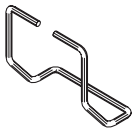
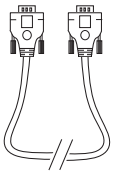
Labels



Packing



● Accessories (see accessories parts list)

REMOTE CONTROL	MANUALs	CD-ROMs
		
AC CORD	AC CORD HOLDER	AC CORD STOPPER
		
VGA CABLE		
		

Mechanical Parts List

Key No.	Part No.	Description
PACKING MATERIALS		
P01	6103595672	CARTON CASE-MB2AC (CW230U)
	6103596099	CARTON CASE-PB2AC (CW230E/EJ)
	6103596105	CARTON CASE-PB2SC (CW230EA/EAJ)
	6103595719	CARTON CASE-MC2AC (CX200U)
	6103596112	CARTON CASE-PC2AC (CX200E/EJ)
	6103596129	CARTON CASE-PC2SC (CX200EA/EAJ)
P02	6103596006	CARTON CASE OUTER-MB2AC (CW230U)
	6103596020	CARTON CASE OUTER-PB2DC (CW230EJ)
	6103596136	CARTON CASE OUTER-PB2CC (CW230EAJ)
	6103596013	CARTON CASE OUTER-MC2AC (CX200U)
	6103596143	CARTON CASE OUTER-PC2DC (CX200EJ)
	6103596150	CARTON CASE OUTER-PC2CC (CX200EAJ)
	6103469249	POLY BAG
	6103603728	CASE ACCESSORY-MB2AC
	6103595238	CUSHION LEFT-MB2AC
	6103595245	CUSHION RIGHT-MB2AC
LABELS		
⚠W01	6103595993	LABEL,AC U-MB2AC
⚠ W02	6103603162	LABEL CAUTION HOT 5-MB2AC
⚠ W03	6103603247	LBL,CAUTION LNS 5-MB2AC
⚠ W04	6103603513	LBL,LMP U275W HI-HG-GL S5-MB2A
⚠ W05	6103603315	LABEL CAUTION EARTH 3-MB2AC (CW230E/EJ/EA/EAJ/CX200E/EJ/EA/EAJ)
ACCESSORIES		
⚠	6103580425	COMPL, VGA CABLE-KC2JC
⚠	6103597751	COMPL, AC CORD-KV4A (CW230U/CX200U)
⚠	6103597768	COMPL, AC CORD-LV4A (CW230E/EJ/CX200E/EJ)
⚠	6103597775	COMPL, AC CORD-LP4A (CW230EA/EAJ/CX200EA/EAJ)
	6103573700	HLD AC LOCK-KA2JC
	6103595221	STOPPER AC LOCK-MB2AC
	6103595078	CD-ROM,OWNERS MANUAL-MB2AC
	6103595139	SETUP INST MANUAL-MB2AC (CW230U/CX200U)
	6103595153	SETUP INST MANUAL-PB2AC (CW230E/EJ/CX200E/EJ)
	6103595160	SETUP INST MANUAL-PB2DC (CW230EA/EAJ/CX200EA/EAJ)
⚠	6451054586	ASSY,REMOCON MXEL
MECHANICAL PARTS		
CABINET PARTS		
C01	6103505954	ASSY,STAND LEG-KG8AC
C02	6103505961	BUTTON CONTROL-KG8AC
⚠ C03	6103596068	CABINET TOP SERVICE MB2AC (CW230)
C03-1	6103595184	DEC CONTROL SHEET-MB2AC (CW230)
⚠ C03	6103596464	CABINET TOP SERVICE MC2AC (CX200)
C03-1	6103596365	DEC CONTROL SHEET-MC2AC (CX200)
⚠ C04	6103603681	CABINET BOTTOM D-KG8AC
C05	6103506005	CAP FOCUS LEVER-KG8AC
⚠ C06	6103506050	COVER LMP-KG8AC
C07	6103519845	DAMPER,BUSH-KG8AC
C08	6103468495	DEC LEG-KA8AL
C09	6103506098	DEC RC-KG8AC
C10	6103530741	BUSH OPTICAL LNS-KG8AC
C11	6103595979	DEC AV SHEET-MB2AC
C12	6103506265	MOUNTING COVER GL-KG8AC
⚠ C13	6103506296	PANEL AV-KG8AC
⚠ C14	6103533131	PANEL LEVER -KG8AC
C15	6103531786	REFLECTOR RC-KG8AC
CHASSIS PARTS		
M01	6103516547	COVER DUCT CW-KG8AC
M02	6103506173	HOLDER FN LMP IN-KG8AC
M03	6103506258	HOLDER SP BACK-KG8AC
M04	6103506241	HOLDER SP FRONT-KG8AC
⚠ M05	6103506326	SPACER SHEET AC-KG8AC
⚠ M06	6103506371	SPACER SHEET BST B-KG8AC
⚠ M07	6103513638	SPACER SHEET POW T-KG8AC
M08	6103567686	SPACER SP A-KG8AC
M09	6103537306	SHIELD LMP EXH C-KG8AC
M10	6103532509	STOPPER BOSS A-KG8AC
M11	6103531793	SPACER POW FN-KG8AC
SCREWS		
S01	4111858802	SCR S-TPG PAN 3X8
S02	4120796409	SPECIAL SCREW
S03	4120776401	SPECIAL SCREW
S04	4110319304	SCR BIN 3X8
S05	4112213303	SCR SET HEX-SCT 2.5X12
S06	4111927607	SCR BIN 2.5X6
OPTICAL PARTS		
L01	6103597553	SERVICE OPT MIR ENG-KG8AC (CW230)
L01	6103597737	SERVICE OPT MIR ENG-KV8AC (CX200)
L01-1	6451033789	OPTICAL FILTER(CW)
L02	6451033819	OPTICAL FILTER (B270)
⚠ A6701	6103484785	ASSY,PWB,CW SENSER KG8AC

Electrical Parts List

Product safety should be considered when a component replacement is made in any area of a projector. Components indicated by a ⚠ mark in this parts list and the circuit diagram show components whose value have special significance to product safety. It is particularly recommended that only parts specified on the following parts list be used for components replacement pointed out by the mark.

● **Read Description in the parts list**

Read description in the Capacitor and Resistor as follows:

CAPACITOR CERAMIC 100P K 50V

Rated Voltage

Tolerance Symbols:

Less than 10pF

A : Not specified	B : ±0.1pF	C : ±0.25pF
D : ±0.5pF	E : +0 -1pF	F : ±1PF
G : ±2pF	H : +0.1 -0pF	L : +0 -0.1pF
R : ±0.25 -0pF	S : +0-0.25pF	

More than 10pF

A : Not specified	B : ±0.1%	C : ±0.25%
D : ±0.5%	F : ±1%	G : ±2%
H : ±3%	J : ±5%	K : ±10%
L : ±15%	M : ±20%	N : ±30%
P : +100-0%	Q : +30-10%	T : +50-10%
U : +75-10%	V : +20-10%	W : +100-10%
X : +40-20%	Y : +150-10%	Z : +80-20%

Rated value: P=pico farad, U=micro farad

Material:

CERAMIC..... Ceramic
MT-PAPER..... Metallized Paper
POLYESTER..... Polyester
MT-POLYEST.....Metallized Polyester
POLYPRO..... Polypropylene
MT-POLYPRO....Metallized Polypropylene
COMPO FILM.....Composite film
MT-COMPO.....Metallized Composite
STYRENE.....Styrene
TA-SOLID..... Tantalum Oxide Solid Electrolytic
AL-SOLID..... Aluminium Solid Electrolytic
ELECT..... Aluminum Foil Electrolytic
NP-ELECT..... Non-polarised Electrolytic
OS-SOLID..... Aluminium Solid with Organic Semiconductive Electrolytic
POS-SOLID..... Polymerized Organic Semiconductive
DL-ELECT..... Double Layered Electrolytic
PPS-FILM.....Polyphenylene Sulfide Film
MT-PPS-FILM.....Metalized Polyphenylene Sulfide Film
MT-PEN-FILM.....Metalized Polyethylenenaphthalate Film
CAPACITOR.....Other

RESISTOR CARBON 4.7K J A 1/4W

Rated Wattage

Performance Symbols:
A: General B: Non flammable Z: Low noise
Other: Temperature coefficient

T: ±10ppm/°C	U: ±25ppm/°C	C: ±50ppm/°C
D: ±100ppm/°C	E: ±200ppm/°C	F: ±250ppm/°C
G: ±350ppm/°C	H: ±1000ppm/°C±10%	W: ±1200ppm/°C±10%
Y: ±1400ppm/°C±10%	J: ±2000ppm/°C±10%	K: ±2400ppm/°C±10%
L: ±2700ppm/°C±10%	M: ±3000ppm/°C±10%	N: ±3300ppm/°C±10%
P: ±3600ppm/°C±10%	Q: ±3900ppm/°C±10%	R: ±4200ppm/°C±10%
S: ±4300ppm/°C±10%	V: ±4500ppm/°C±10%	X: ±8000ppm/°C±10%

Tolerance Symbols:

A: ±0.05%	B: ±0.1%	C: ±0.25%	D: ±0.5%
F: ±1%	G: ±2%	J: ±5%	K: ±10%
M: ±20%	P: +5-15%	Z: 0 ohm	

Rated value, ohms:
K: 1,000, M: 1,000,000

Material:

CARBON..... Carbon
MT-FILM..... Metal Film
OXIDE-MT..... Oxide Metal Film
SOLID..... Composition
MT-GLAZE..... Metal Glaze
WIRE WOUND... Wire Wound
CERAMIC RES.. Ceramic
FUSIBLE RES.... Fusible
RESISTOR ..... Other

Key No.	Part No.	Description
ASSEMBLED BOARD		
⚠ **A601**	**6103594743**	**ASSY,PWB,POWER MB2AC**
⚠ **A602**	**6103594767**	**ASSY,PWB,LINE FILTER MB2AC**
⚠ **A1001**	**6103595429**	**ASSY,PWB,AV MB2AC**
⚠ **A401**	**6103595412**	**ASSY,PWB,MAIN MB2AC (CW230)**
⚠ **A401**	**6103602097**	**ASSY,PWB,MAIN MC2AC (CX200)**
⚠ **A6801**	**6103595436**	**ASSY,PWB,KEY MB2AC**
⚠ **A8801**	**6103595467**	**ASSY,PWB,TEMP SENSOR1 MB2AC**
⚠ **A8811**	**6103595474**	**ASSY,PWB,TEMP SENSOR2 MB2AC**
⚠ **A9701**	**6103595481**	**ASSY,PWB,FANNET MB2AC**
ELECTRICAL PARTS		
⚠ A901	6451048486	UNIT,BALLAST
⚠ A901A	6103513768	CABLE,BALLAST KG8AC
⚠ FN901	6451035080	MOTOR,FAN DC 2.28W
⚠ FN902	6451035097	MOTOR,BLW DC 3.96W
⚠ FN903	6451035103	MOTOR,BLW DC 3.96W
⚠ FN904	6451035073	MOTOR,FAN DC 3.0W
⚠ FN905	6451035080	MOTOR,FAN DC 2.28W
⚠ FN906	6451035110	MOTOR,BLW DC 3.96W
K30A1	3120730406	SPECIAL SCREW
K30A2	3120730406	SPECIAL SCREW
K30B1	3120730406	SPECIAL SCREW
K30B2	3120730406	SPECIAL SCREW
K38A1	3120730406	SPECIAL SCREW
K38A2	3120730406	SPECIAL SCREW
L901	9450234959	CORE,CLAMP
L902	6450856051	CORE,FERRITE
L903	9450033835	CORE,FERRITE
L904	9450033835	CORE,FERRITE
L905	9450033835	CORE,FERRITE
L906	9450033835	CORE,FERRITE
SP901	6520032699	SPEAKER,8
SW901	6450973925	SWITCH,MICRO 1P-2T
⚠ Z602&6C		
	6520037557	ASSY,WIRE (SW902)
A601	**6103594743**	**ASSY,PWB,POWER MB2AC**
C607	3040733709	CERAMIC 100P K 250V
C608	3040733709	CERAMIC 100P K 250V
C611	3032221316	CERAMIC 1000P K 1K
C612	3032221316	CERAMIC 1000P K 1K
C613	3034272019	MT-POLYEST 1U K 400V
C614	3034272019	MT-POLYEST 1U K 400V
⚠ C615	4041296705	ELECT 270U M 450V
C621	3033363510	CERAMIC 0.47U K 16V
C622	3033565112	CERAMIC 0.047U K 50V
C623	3032152214	CERAMIC 0.01U K 50V
C625	3032152214	CERAMIC 0.01U K 50V
C626	3033969613	CERAMIC 1U K 25V
C627	3031134112	CERAMIC 2200P K 50V
C631	3031574215	CERAMIC 220P J 50V
C632	3032454417	CERAMIC 470P K 2K
C633	3032653216	CERAMIC 1000P J 50V
C634	3031134112	CERAMIC 2200P K 50V
C635	3033835215	CERAMIC 4.7U K 6.3V
C636	4041286300	ELECT 15U M 450V
C637	4041286300	ELECT 15U M 450V
C641	3033701510	CERAMIC 0.1U K 50V
C642	3033835215	CERAMIC 4.7U K 6.3V
C643	3033835215	CERAMIC 4.7U K 6.3V
C651	3034107618	ELECT 220U M 35V
C653	3033701510	CERAMIC 0.1U K 50V
C661	4034454432	ELECT 1800U M 25V
C662	3033701510	CERAMIC 0.1U K 50V
C663	4034454432	ELECT 1800U M 25V
C664	3033835215	CERAMIC 4.7U K 6.3V
C665	3033835215	CERAMIC 4.7U K 6.3V
C667	3033835215	CERAMIC 4.7U K 6.3V
C668	3033835215	CERAMIC 4.7U K 6.3V
C671	3033701510	CERAMIC 0.1U K 50V
C672	3034107113	ELECT 100U M 25V
C673	3034107113	ELECT 100U M 25V
C674	4034776514	MT-POLYEST 0.01U J 630V
D611	3072254401	DIODE FMX-G26S
D611C	6520026520	CORE,PIPE
D611D	6520026520	CORE,PIPE
D612	3071490810	DIODE 1SS355-TE-17
D613	3071490810	DIODE 1SS355-TE-17
D614	3070077715	DIODE EU2A-V1
D616	4080657901	DIODE ZRM11C
D617	4080657901	DIODE ZRM11C
D631	3071490810	DIODE 1SS355-TE-17
D632	3071490810	DIODE 1SS355-TE-17
D633	3071468116	DIODE EG01C
D651	3072478827	DIODE RF101L2S
D661	4072619504	DIODE YG862C10R
D665	4080708702	THYRISTOR TFA87S LF675
D666	3071468116	DIODE EG01C
D671	3072478827	DIODE RF101L2S
⚠ DB611	3071436006	DIODE RBV-1506
⚠ F631	4240073305	FUSE 250V 2.0A
⚠ IC621	4096907918	IC FA5550N
⚠ IC631	3096537405	IC MR4010-7101
IC671	4096922515	IC TA76L431FB
L611	9450814878	LINE FILTER
L612	6450892561	INDUCTOR,700U
L613	6520037229	CORE,PIPE
L614	6520037229	CORE,PIPE
L615	9520010131	CORE,PIPE
L616	9520010131	CORE,PIPE
L619	9450866037	IMPEDANCE,330 OHM P
L620	3011506014	MT-GLAZE 0.000 ZA 1/10W
L625	3011506014	MT-GLAZE 0.000 ZA 1/10W
L626	9450866037	IMPEDANCE,330 OHM P
L631	9520010131	CORE,PIPE
L661	6520037229	CORE,PIPE
⚠ PC661	4072657813	PC TLP781F(D4-GB-TP7)
⚠ PC663	4072657813	PC TLP781F(D4-GB-TP7)
⚠ PC671	4072657813	PC TLP781F(D4-GB-TP7)
⚠ PTH611	3080374603	THERMISTOR NTPDB8R0LD7B0
⚠ PTH641	4080689803	TH PRF18BD471QB5RB
⚠ Q611	4060227605	TR TK15A50D(-)
⚠ Q612	4060227605	TR TK15A50D(-)
Q622	3051739915	TR 2SC3928A1S
Q641	3051739915	TR 2SC3928A1S
Q642	3051739915	TR 2SC3928A1S
Q651	4052203016	TR ISA1235AC1F
Q681	3051739915	TR 2SC3928A1S
Q683	3051739915	TR 2SC3928A1S
⚠ R611	4013530212	MT-GLAZE 360K JA 1/3W
⚠ R612	4013530311	MT-GLAZE 430K JA 1/3W
R613	3012566314	MT-GLAZE 47K JA 1/10W
R614	4021098206	RESISTER 0.15 JB 5W
R615	4021220409	MT-GLAZE 680K DD 1/4W
R616	4013612611	MT-GLAZE 680K DA 1/4W
R617	3012566314	MT-GLAZE 47K JA 1/10W
R618	3011505918	MT-GLAZE 10K JA 1/10W
R619	3012558715	MT-GLAZE 22 JA 1/10W
R620	3012556513	MT-GLAZE 100 JA 1/10W
R621	3013261812	MT-GLAZE 8.2K DA 1/10W
R622	4013604616	MT-GLAZE 620 DA 1/10W
R624	3011622912	MT-GLAZE 220 JA 1/10W
R625	3012556513	MT-GLAZE 100 JA 1/10W

Key No.	Part No.	Description
R626	3012558715	MT-GLAZE 22 JA 1/10W
R627	3011505918	MT-GLAZE 10K JA 1/10W
R628	3011505918	MT-GLAZE 10K JA 1/10W
R629	3012565812	MT-GLAZE 270K JA 1/10W
R631	3012557718	MT-GLAZE 11K JA 1/10W
R634	3012561715	MT-GLAZE 33K JA 1/10W
R635	4021221208	OXIDE-MT 0.39JB 1W
R636	3011623018	MT-GLAZE 22K JA 1/10W
R637	3012561715	MT-GLAZE 33K JA 1/10W
R640	3011622219	MT-GLAZE 10 JA 1/10W
R641	3011505918	MT-GLAZE 10K JA 1/10W
R642	3012566611	MT-GLAZE 68K JA 1/10W
R643	3011505918	MT-GLAZE 10K JA 1/10W
R644	3012566314	MT-GLAZE 47K JA 1/10W
R645	3011882316	MT-GLAZE 4.7K JA 1/4W
R646	3011882316	MT-GLAZE 4.7K JA 1/4W
R651	3011505918	MT-GLAZE 10K JA 1/10W
R652	3011132114	MT-GLAZE 22 JA 1/2W
R662	3011623117	MT-GLAZE 3.3K JA 1/10W
R665	3011623711	MT-GLAZE 4.7K JA 1/10W
R671	3012567618	MT-GLAZE 3.9K JA 1/10W
R672	3011506212	MT-GLAZE 1K JA 1/10W
R673	3012652611	MT-GLAZE 5.1K FA 1/10W
R674	3012654417	MT-GLAZE 6.8K FA 1/10W
R675	3011623711	MT-GLAZE 4.7K JA 1/10W
R676	3012646511	MT-GLAZE 2.2K FA 1/10W
R677	3011832410	MT-GLAZE 100 JA 1/2W
R678	3011505819	MT-GLAZE 100K JA 1/10W
R681	3012538113	MT-GLAZE 22 JA 1/4W
R683	3012567618	MT-GLAZE 3.9K JA 1/10W
R684	3011505819	MT-GLAZE 100K JA 1/10W
R685	4021098206	RESISTER 0.15 JB 5W
R686	3012588217	MT-GLAZE 680 JA 1/3W
R687	3020808809	MT-GLAZE 680 KA 1W
R689	3011505918	MT-GLAZE 10K JA 1/10W
R690	3012381016	MT-GLAZE 120K JA 1/2W
R691	3012381016	MT-GLAZE 120K JA 1/2W
R692	3012381016	MT-GLAZE 120K JA 1/2W
R693	3012381016	MT-GLAZE 120K JA 1/2W
R694	3012381016	MT-GLAZE 120K JA 1/2W
R695	3012381016	MT-GLAZE 120K JA 1/2W
R696	3011779517	MT-GLAZE 10K JA 1/2W
R697	3011779517	MT-GLAZE 10K JA 1/2W
⚠ RL601	6451029911	RELAY
⚠ T651	6451033536	TRANS,POWER,PULSE
ZD631	3072065413	ZD UDZS-TE-178.2B
ZD632	3072089716	ZD UDZS-TE-175.6B
ZD633	3072089716	ZD UDZS-TE-175.6B
A602	**6103594767**	**ASSY,PWB,LINE FILTER MB2AC**
⚠ C601	4041132904	MT-POLYEST 0.33U K 275V
⚠ C602	4041132904	MT-POLYEST 0.33U K 275V
⚠ C603	4041219605	CERAMIC 3300P M 250V
⚠ C604	4041219605	CERAMIC 3300P M 250V
⚠ C605	4041132904	MT-POLYEST 0.33U K 275V
⚠ F601	3230251204	FUSE 250V 8A
⚠ K601	6450931765	SOCKET,INLET AC 3P
⚠ L601	9450502232	LINE FILTER
⚠ L602	9450502232	LINE FILTER
⚠ R600	4013530212	MT-GLAZE 360K JA 1/3W
⚠ R601	4013530311	MT-GLAZE 430K JA 1/3W
⚠ VA601	4080713102	VARISTOR S14K385E2K1
A1001	**6103595429**	**ASSY,PWB,AV MB2AC**
C2001	3033054715	CERAMIC 330P J 50V
C2002	3031576813	CERAMIC 680P K 50V
C2003	3033054715	CERAMIC 330P J 50V

Key No.	Part No.	Description
C2004	3034093426	CERAMIC 0.1U K 16V
C3801	3034093426	CERAMIC 0.1U K 16V
C3802	3034093426	CERAMIC 0.1U K 16V
C3803	3034093426	CERAMIC 0.1U K 16V
C3804	3034093426	CERAMIC 0.1U K 16V
C3806	3034331112	CERAMIC 1U K 10V
C5021	3032946110	CERAMIC 100P J 50V
C5022	3032946110	CERAMIC 100P J 50V
C9701	3034093426	CERAMIC 0.1U K 16V
C9702	3034093426	CERAMIC 0.1U K 16V
C9703	3034093426	CERAMIC 0.1U K 16V
IC3801	4106301603	IC ICL3232ECV-16Z-T
K20A	9520017932	TERMINAL, BOARD
K38A	6520037441	SOCKET,D-SUB 9P
K50A	9520019585	JACK,RCA-2
K50B	6520024847	JACK,PHONE D3.6
K50C	9520010070	JACK,PHONE D3.6
K97A	6520032774	SOCKET,DIN 3P
L2001	9450867461	FILTER,EMI 100MHZ
L2002	9450867461	FILTER,EMI 100MHZ
L2003	9450867461	FILTER,EMI 100MHZ
L2006	9450015923	INDUCTOR,2.2U M
L2007	9450015923	INDUCTOR,2.2U M
L3801	9450688325	FILTER,EMI 20MHZ
L3802	9450688325	FILTER,EMI 20MHZ
L5001	9450688325	FILTER,EMI 20MHZ
L5002	9450688325	FILTER,EMI 20MHZ
L5011	9450688325	FILTER,EMI 20MHZ
L5012	9450688325	FILTER,EMI 20MHZ
L5013	9450688325	FILTER,EMI 20MHZ
L5014	9450688325	FILTER,EMI 20MHZ
L5021	9450688325	FILTER,EMI 20MHZ
L5022	9450688325	FILTER,EMI 20MHZ
R2001	3012942712	MT-GLAZE 150 FA 1/16W
R2002	3012942712	MT-GLAZE 150 FA 1/16W
R2003	3012258110	MT-GLAZE 10 JA 1/16W
R2004	3012942712	MT-GLAZE 150 FA 1/16W
R2006	3012942712	MT-GLAZE 150 FA 1/16W
R2007	3012258110	MT-GLAZE 10 JA 1/16W
R2008	3012942712	MT-GLAZE 150 FA 1/16W
R2009	3012942712	MT-GLAZE 150 FA 1/16W
R2011	3012258110	MT-GLAZE 10 JA 1/16W
R2012	3012248814	MT-GLAZE 100 JA 1/16W
R3801	3012258110	MT-GLAZE 10 JA 1/16W
R3802	3012258110	MT-GLAZE 10 JA 1/16W
R3803	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3804	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3852	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3853	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3854	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3856	3012261516	MT-GLAZE 0.000 ZA 1/16W
R5001	3012251418	MT-GLAZE 47K JA 1/16W
R5002	3012251418	MT-GLAZE 47K JA 1/16W
R5011	3012251418	MT-GLAZE 47K JA 1/16W
R5012	3012251418	MT-GLAZE 47K JA 1/16W
R5013	3012251418	MT-GLAZE 47K JA 1/16W
R5014	3012251418	MT-GLAZE 47K JA 1/16W
R5021	3012248913	MT-GLAZE 100K JA 1/16W
R5022	3012248913	MT-GLAZE 100K JA 1/16W
R5023	3012248814	MT-GLAZE 100 JA 1/16W
R5024	3012248814	MT-GLAZE 100 JA 1/16W
R5026	3012261516	MT-GLAZE 0.000 ZA 1/16W
R9701	3012261516	MT-GLAZE 0.000 ZA 1/16W
R9703	3011506014	MT-GLAZE 0.000 ZA 1/10W
SC2001	9450763503	SURGE-ABSORBER
SC2002	9450763503	SURGE-ABSORBER
SC2003	9450763503	SURGE-ABSORBER
SC3801	9450763503	SURGE-ABSORBER
SC3802	9450763503	SURGE-ABSORBER
SC3803	9450763503	SURGE-ABSORBER
SC5001	9450763503	SURGE-ABSORBER

Key No.	Part No.	Description
SC5002	9450763503	SURGE-ABSORBER
SC5011	9450763503	SURGE-ABSORBER
SC5012	9450763503	SURGE-ABSORBER
SC5013	9450763503	SURGE-ABSORBER
SC5014	9450763503	SURGE-ABSORBER
SC5021	9450763503	SURGE-ABSORBER
SC5022	9450763503	SURGE-ABSORBER
SC9701	9450763503	SURGE-ABSORBER
A401	**6103595412**	**ASSY,PWB,MAIN MB2AC (CW230)**
A401	**6103602097**	**ASSY,PWB,MAIN MC2AC (CX200)**
C001	3034009110	ELECT 470U M 25V
C002	3033969613	CERAMIC 1U K 25V
C004	3033969613	CERAMIC 1U K 25V
C006	3033969613	CERAMIC 1U K 25V
C007	3033969613	CERAMIC 1U K 25V
C008	3033969613	CERAMIC 1U K 25V
C009	3033969613	CERAMIC 1U K 25V
C011	3033969613	CERAMIC 1U K 25V
C012	3033969613	CERAMIC 1U K 25V
C013	3034031319	ELECT 22U M 25V
C014	3033969613	CERAMIC 1U K 25V
C016	3033969613	CERAMIC 1U K 25V
C017	3034331112	CERAMIC 1U K 10V
C018	3033701510	CERAMIC 0.1U K 50V
C019	3033645913	CERAMIC 0.22U K 16V
C021	3033701510	CERAMIC 0.1U K 50V
C022	3033701510	CERAMIC 0.1U K 50V
C023	3033645913	CERAMIC 0.22U K 16V
C024	3033701510	CERAMIC 0.1U K 50V
C026	3033701510	CERAMIC 0.1U K 50V
C027	3033701510	CERAMIC 0.1U K 50V
C028	4034696317	CERAMIC 0.47U K 50V
C1401	3034093426	CERAMIC 0.1U K 16V
C1402	3034093426	CERAMIC 0.1U K 16V
C1403	3034093426	CERAMIC 0.1U K 16V
C1404	3034093426	CERAMIC 0.1U K 16V
C1411	3034093426	CERAMIC 0.1U K 16V
C1412	3034093426	CERAMIC 0.1U K 16V
C1416	3034093426	CERAMIC 0.1U K 16V
C1421	3034093426	CERAMIC 0.1U K 16V
C1422	3034093426	CERAMIC 0.1U K 16V
C1423	3034093426	CERAMIC 0.1U K 16V
C1424	3034093426	CERAMIC 0.1U K 16V
C1426	3034093426	CERAMIC 0.1U K 16V
C1427	3034093426	CERAMIC 0.1U K 16V
C1428	3034093426	CERAMIC 0.1U K 16V
C1429	3034093426	CERAMIC 0.1U K 16V
C1431	3034093426	CERAMIC 0.1U K 16V
C1432	3034093426	CERAMIC 0.1U K 16V
C1433	3034093426	CERAMIC 0.1U K 16V
C1434	3034093426	CERAMIC 0.1U K 16V
C1436	3034093426	CERAMIC 0.1U K 16V
C1437	3034093426	CERAMIC 0.1U K 16V
C1438	3034093426	CERAMIC 0.1U K 16V
C1439	3033583215	CERAMIC 10U K 6.3V
C1441	3034093426	CERAMIC 0.1U K 16V
C1442	3034093426	CERAMIC 0.1U K 16V
C1451	3034331112	CERAMIC 1U K 10V
C1452	3034331112	CERAMIC 1U K 10V
C1453	3033583215	CERAMIC 10U K 6.3V
C1454	3033583215	CERAMIC 10U K 6.3V
C1456	3034331112	CERAMIC 1U K 10V
C1461	3034093426	CERAMIC 0.1U K 16V
C1462	3034093426	CERAMIC 0.1U K 16V
C1463	3034093426	CERAMIC 0.1U K 16V
C1464	3034093426	CERAMIC 0.1U K 16V
C1466	3034093426	CERAMIC 0.1U K 16V
C1467	3034093426	CERAMIC 0.1U K 16V
C1468	3034093426	CERAMIC 0.1U K 16V
C1469	3034093426	CERAMIC 0.1U K 16V
C1471	3034093426	CERAMIC 0.1U K 16V
C1472	3034093426	CERAMIC 0.1U K 16V
C1481	3034093426	CERAMIC 0.1U K 16V
C1482	3033583215	CERAMIC 10U K 6.3V
C1483	3032761317	CERAMIC 1000P K 50V
C1484	3033583215	CERAMIC 10U K 6.3V
C1485	3032761317	CERAMIC 1000P K 50V
C1486	3033583215	CERAMIC 10U K 6.3V
C1487	3034093426	CERAMIC 0.1U K 16V
C1488	3034093426	CERAMIC 0.1U K 16V
C1489	3034093426	CERAMIC 0.1U K 16V
C1491	3034093426	CERAMIC 0.1U K 16V
C1492	3034093426	CERAMIC 0.1U K 16V
C2021	3033583215	CERAMIC 10U K 6.3V
C2022	3034093426	CERAMIC 0.1U K 16V
C2031	3034093426	CERAMIC 0.1U K 16V
C2032	3034093426	CERAMIC 0.1U K 16V
C2041	3033583215	CERAMIC 10U K 6.3V
C2042	3034093426	CERAMIC 0.1U K 16V
C2501	4034551616	CERAMIC 10U K 16V
C2502	3034093426	CERAMIC 0.1U K 16V
C2503	3034093426	CERAMIC 0.1U K 16V
C2504	3034015715	CERAMIC 0.33U K 16V
C2506	3034015715	CERAMIC 0.33U K 16V
C2507	3034015715	CERAMIC 0.33U K 16V
C2508	3034015715	CERAMIC 0.33U K 16V
C2511	3033921215	ELECT 47U M 6.3V
C2512	3033583215	CERAMIC 10U K 6.3V
C2513	3033583215	CERAMIC 10U K 6.3V
C2516	3033921215	ELECT 47U M 6.3V
C2522	3033835215	CERAMIC 4.7U K 6.3V
C2526	3033921215	ELECT 47U M 6.3V
C2527	3033921215	ELECT 47U M 6.3V
C2531	3033925015	CERAMIC 22U M 6.3V
C2532	3032761317	CERAMIC 1000P K 50V
C2533	3032761317	CERAMIC 1000P K 50V
C2534	3032761317	CERAMIC 1000P K 50V
C2536	3033645913	CERAMIC 0.22U K 16V
C2537	3033645913	CERAMIC 0.22U K 16V
C2539	3034093426	CERAMIC 0.1U K 16V
C2543	3034093426	CERAMIC 0.1U K 16V
C2571	3034093426	CERAMIC 0.1U K 16V
C2572	3034093426	CERAMIC 0.1U K 16V
C2851	3034093426	CERAMIC 0.1U K 16V
C2852	3033058812	CERAMIC 47P J 50V
C3001	3034093426	CERAMIC 0.1U K 16V
C3002	3034093426	CERAMIC 0.1U K 16V
C3011	3034093426	CERAMIC 0.1U K 16V
C3012	3034093426	CERAMIC 0.1U K 16V
C3021	3034093426	CERAMIC 0.1U K 16V
C3022	3034093426	CERAMIC 0.1U K 16V
C3031	3034093426	CERAMIC 0.1U K 16V
C3041	3033583215	CERAMIC 10U K 6.3V
C3051	3034093426	CERAMIC 0.1U K 16V
C3052	3034093426	CERAMIC 0.1U K 16V
C3061	3034093426	CERAMIC 0.1U K 16V
C3062	3034093426	CERAMIC 0.1U K 16V
C3071	3034093426	CERAMIC 0.1U K 16V
C3072	3034093426	CERAMIC 0.1U K 16V
C3081	3034093426	CERAMIC 0.1U K 16V
C3501	3033915511	ELECT 10U M 16V
C3502	3034093426	CERAMIC 0.1U K 16V
C3503	3034093426	CERAMIC 0.1U K 16V
C3504	3034331112	CERAMIC 1U K 10V
C3505	3034093426	CERAMIC 0.1U K 16V
C3506	3032946110	CERAMIC 100P J 50V
C3507	3032946110	CERAMIC 100P J 50V
C3508	3033915511	ELECT 10U M 16V

Key No.	Part No.	Description
C3509	3033701510	CERAMIC 0.1U K 50V
C3510	3033701510	CERAMIC 0.1U K 50V
C3511	3034093426	CERAMIC 0.1U K 16V
C3512	3033701510	CERAMIC 0.1U K 50V
C3513	3033701510	CERAMIC 0.1U K 50V
C3514	3033701510	CERAMIC 0.1U K 50V
C3515	3034015616	ELECT 4.7U M 35V
C3516	3034093426	CERAMIC 0.1U K 16V
C3517	3033701510	CERAMIC 0.1U K 50V
C3518	3034374614	CERAMIC 10U K 25V
C3519	3033701510	CERAMIC 0.1U K 50V
C3520	3033701510	CERAMIC 0.1U K 50V
C3521	3034015616	ELECT 4.7U M 35V
C3522	3033701510	CERAMIC 0.1U K 50V
C3523	3033701510	CERAMIC 0.1U K 50V
C3524	3034093426	CERAMIC 0.1U K 16V
C3525	3033701510	CERAMIC 0.1U K 50V
C3526	3033701510	CERAMIC 0.1U K 50V
C3527	3033701510	CERAMIC 0.1U K 50V
C3528	3034093426	CERAMIC 0.1U K 16V
C3529	3034093426	CERAMIC 0.1U K 16V
C3530	3034093426	CERAMIC 0.1U K 16V
C3531	3034093426	CERAMIC 0.1U K 16V
C3532	3034093426	CERAMIC 0.1U K 16V
C3533	3034093426	CERAMIC 0.1U K 16V
C3534	3034093426	CERAMIC 0.1U K 16V
C3541	3034093426	CERAMIC 0.1U K 16V
C3542	3034093426	CERAMIC 0.1U K 16V
C3543	3034093426	CERAMIC 0.1U K 16V
C3544	3034093426	CERAMIC 0.1U K 16V
C3651	3034093426	CERAMIC 0.1U K 16V
C3821	3034331112	CERAMIC 1U K 10V
C3831	3034331112	CERAMIC 1U K 10V
C3832	3034331112	CERAMIC 1U K 10V
C4001	3034331112	CERAMIC 1U K 10V
C4002	3034093426	CERAMIC 0.1U K 16V
C4003	3034331112	CERAMIC 1U K 10V
C4004	3034093426	CERAMIC 0.1U K 16V
C401	3033583215	CERAMIC 10U K 6.3V
C4011	3034093426	CERAMIC 0.1U K 16V
C4012	3034093426	CERAMIC 0.1U K 16V
C4013	3034093426	CERAMIC 0.1U K 16V
C402	3033583215	CERAMIC 10U K 6.3V
C403	3033583215	CERAMIC 10U K 6.3V
C4031	3034093426	CERAMIC 0.1U K 16V
C404	3034093426	CERAMIC 0.1U K 16V
C405	3034093426	CERAMIC 0.1U K 16V
C4051	3034093426	CERAMIC 0.1U K 16V
C4052	3034093426	CERAMIC 0.1U K 16V
C4053	3034093426	CERAMIC 0.1U K 16V
C406	3034093426	CERAMIC 0.1U K 16V
C407	3034093426	CERAMIC 0.1U K 16V
C408	3034093426	CERAMIC 0.1U K 16V
C409	3034093426	CERAMIC 0.1U K 16V
C411	3034093426	CERAMIC 0.1U K 16V
C412	3034093426	CERAMIC 0.1U K 16V
C413	3034093426	CERAMIC 0.1U K 16V
C414	3034093426	CERAMIC 0.1U K 16V
C415	3034093426	CERAMIC 0.1U K 16V
C416	3034093426	CERAMIC 0.1U K 16V
C417	3034093426	CERAMIC 0.1U K 16V
C418	3034093426	CERAMIC 0.1U K 16V
C419	3034093426	CERAMIC 0.1U K 16V
C421	3034093426	CERAMIC 0.1U K 16V
C422	3034093426	CERAMIC 0.1U K 16V
C423	3034093426	CERAMIC 0.1U K 16V
C424	3034093426	CERAMIC 0.1U K 16V
C426	3034093426	CERAMIC 0.1U K 16V
C427	3034093426	CERAMIC 0.1U K 16V
C428	3034093426	CERAMIC 0.1U K 16V
C429	3034093426	CERAMIC 0.1U K 16V

Key No.	Part No.	Description
C431	3033583215	CERAMIC 10U K 6.3V
C432	3034093426	CERAMIC 0.1U K 16V
C433	3034093426	CERAMIC 0.1U K 16V
C434	3034093426	CERAMIC 0.1U K 16V
C435	3034093426	CERAMIC 0.1U K 16V
C436	3034093426	CERAMIC 0.1U K 16V
C437	3034093426	CERAMIC 0.1U K 16V
C438	3034093426	CERAMIC 0.1U K 16V
C439	3034093426	CERAMIC 0.1U K 16V
C441	3034093426	CERAMIC 0.1U K 16V
C442	3034093426	CERAMIC 0.1U K 16V
C443	3034093426	CERAMIC 0.1U K 16V
C444	3034093426	CERAMIC 0.1U K 16V
C446	3034093426	CERAMIC 0.1U K 16V
C447	3034093426	CERAMIC 0.1U K 16V
C448	3033583215	CERAMIC 10U K 6.3V
C4502	3033921215	ELECT 47U M 6.3V
C4503	3034093426	CERAMIC 0.1U K 16V
C4504	3032763113	CERAMIC 33P J 50V
C4506	3034093426	CERAMIC 0.1U K 16V
C4509	3034420410	CERAMIC 0.022U K 25V
C451	3033583215	CERAMIC 10U K 6.3V
C452	3033583215	CERAMIC 10U K 6.3V
C453	3034093426	CERAMIC 0.1U K 16V
C454	3034093426	CERAMIC 0.1U K 16V
C456	3034093426	CERAMIC 0.1U K 16V
C457	3034093426	CERAMIC 0.1U K 16V
C458	3034093426	CERAMIC 0.1U K 16V
C459	3034093426	CERAMIC 0.1U K 16V
C461	3034093426	CERAMIC 0.1U K 16V
C462	3034093426	CERAMIC 0.1U K 16V
C463	3034093426	CERAMIC 0.1U K 16V
C464	3034093426	CERAMIC 0.1U K 16V
C4701	3034093426	CERAMIC 0.1U K 16V
C471	3033583215	CERAMIC 10U K 6.3V
C472	3034093426	CERAMIC 0.1U K 16V
C4721	3034093426	CERAMIC 0.1U K 16V
C473	3034093426	CERAMIC 0.1U K 16V
C474	3034093426	CERAMIC 0.1U K 16V
C475	3034093426	CERAMIC 0.1U K 16V
C476	3034093426	CERAMIC 0.1U K 16V
C477	3034093426	CERAMIC 0.1U K 16V
C478	3034093426	CERAMIC 0.1U K 16V
C479	3034093426	CERAMIC 0.1U K 16V
C481	3033058515	CERAMIC 15P J 50V
C482	3032796210	CERAMIC 10P J 50V
C483	3033690527	CERAMIC 0.01U K 25V
C484	3032796210	CERAMIC 10P J 50V
C486	3032796210	CERAMIC 10P J 50V
C487	3032761317	CERAMIC 1000P K 50V
C488	3032761317	CERAMIC 1000P K 50V
C489	3032761317	CERAMIC 1000P K 50V
C491	3033690527	CERAMIC 0.01U K 25V
C492	3032761317	CERAMIC 1000P K 50V
C5061	3034093426	CERAMIC 0.1U K 16V
C5062	3034331112	CERAMIC 1U K 10V
C5063	3034093426	CERAMIC 0.1U K 16V
C5064	3034093426	CERAMIC 0.1U K 16V
C5081	3034093426	CERAMIC 0.1U K 16V
C5101	3033969613	CERAMIC 1U K 25V
C5102	3033969613	CERAMIC 1U K 25V
C5103	3033969613	CERAMIC 1U K 25V
C5104	3033969613	CERAMIC 1U K 25V
C5106	3033969613	CERAMIC 1U K 25V
C5107	3033969613	CERAMIC 1U K 25V
C5108	3033969613	CERAMIC 1U K 25V
C5109	3033969613	CERAMIC 1U K 25V
C5111	3033945815	CERAMIC 4.7U K 16V
C5112	3033945815	CERAMIC 4.7U K 16V
C5113	3033945815	CERAMIC 4.7U K 16V
C5114	3033969613	CERAMIC 1U K 25V

Electrical Parts List

Key No.	Part No.	Description
C5115	3034093426	CERAMIC 0.1U K 16V
C5116	4034551616	CERAMIC 10U K 16V
C5117	3034093426	CERAMIC 0.1U K 16V
C5118	4034551616	CERAMIC 10U K 16V
C5119	3034331112	CERAMIC 1U K 10V
C5121	4034551616	CERAMIC 10U K 16V
C5122	4034551616	CERAMIC 10U K 16V
C5141	3033969613	CERAMIC 1U K 25V
C5151	3033690527	CERAMIC 0.01U K 25V
C5152	3033690527	CERAMIC 0.01U K 25V
C5153	3034093426	CERAMIC 0.1U K 16V
C5601	3034374614	CERAMIC 10U K 25V
C5602	3034374614	CERAMIC 10U K 25V
C5603	3034331112	CERAMIC 1U K 10V
C5604	3034331112	CERAMIC 1U K 10V
C5606	3033985415	ELECT 47U M 25V
C5607	3034374614	CERAMIC 10U K 25V
C5608	3034374614	CERAMIC 10U K 25V
C5611	3033969613	CERAMIC 1U K 25V
C5612	3033969613	CERAMIC 1U K 25V
C5613	3033701510	CERAMIC 0.1U K 50V
C5614	3033701510	CERAMIC 0.1U K 50V
C5615	3033969613	CERAMIC 1U K 25V
C5616	3033984111	ELECT 47U M 16V
C5617	3034093426	CERAMIC 0.1U K 16V
C5618	3033985415	ELECT 47U M 25V
C5619	3033701510	CERAMIC 0.1U K 50V
C5624	3034093426	CERAMIC 0.1U K 16V
C5631	3033363510	CERAMIC 0.47U K 16V
C5632	3033969613	CERAMIC 1U K 25V
C5633	3033701510	CERAMIC 0.1U K 50V
C5634	3033701510	CERAMIC 0.1U K 50V
C5636	3033701510	CERAMIC 0.1U K 50V
C5641	3033984111	ELECT 47U M 16V
C5642	3034093426	CERAMIC 0.1U K 16V
C5643	4034551616	CERAMIC 10U K 16V
C5644	3034093426	CERAMIC 0.1U K 16V
C5645	4034551616	CERAMIC 10U K 16V
C5646	3033701510	CERAMIC 0.1U K 50V
C5647	3033701510	CERAMIC 0.1U K 50V
C5648	3033701510	CERAMIC 0.1U K 50V
C5651	3033985415	ELECT 47U M 25V
C5652	3034331112	CERAMIC 1U K 10V
C5661	3033985415	ELECT 47U M 25V
C5801	3032946110	CERAMIC 100P J 50V
C5802	3032946110	CERAMIC 100P J 50V
C5806	3032946110	CERAMIC 100P J 50V
C5807	3032946110	CERAMIC 100P J 50V
C5808	3032946110	CERAMIC 100P J 50V
C5809	3032946110	CERAMIC 100P J 50V
C5811	3034331112	CERAMIC 1U K 10V
C5812	3034331112	CERAMIC 1U K 10V
C5813	3034331112	CERAMIC 1U K 10V
C5814	3034331112	CERAMIC 1U K 10V
C5815	3034331112	CERAMIC 1U K 10V
C5816	3034331112	CERAMIC 1U K 10V
C5817	3034331112	CERAMIC 1U K 10V
C5818	3034331112	CERAMIC 1U K 10V
C5819	3034331112	CERAMIC 1U K 10V
C5821	3034093426	CERAMIC 0.1U K 16V
C5822	3034093426	CERAMIC 0.1U K 16V
C5823	3034093426	CERAMIC 0.1U K 16V
C5824	3034093426	CERAMIC 0.1U K 16V
C5825	3034093426	CERAMIC 0.1U K 16V
C5826	3034093426	CERAMIC 0.1U K 16V
C5827	3034093426	CERAMIC 0.1U K 16V
C5828	3034093426	CERAMIC 0.1U K 16V
C5829	3034093426	CERAMIC 0.1U K 16V
C5851	3034093426	CERAMIC 0.1U K 16V
C5852	3034093426	CERAMIC 0.1U K 16V
C6201	3034093426	CERAMIC 0.1U K 16V
C6202	3034093426	CERAMIC 0.1U K 16V
C7801	4034551616	CERAMIC 10U K 16V
C7802	4034551616	CERAMIC 10U K 16V
C7803	4034551616	CERAMIC 10U K 16V
C7804	4034551616	CERAMIC 10U K 16V
C7805	4034551616	CERAMIC 10U K 16V
C7806	4034551616	CERAMIC 10U K 16V
C7811	3034093426	CERAMIC 0.1U K 16V
C7813	3033701510	CERAMIC 0.1U K 50V
C7814	3034093426	CERAMIC 0.1U K 16V
C7816	3033984111	ELECT 47U M 16V
C7817	3034093426	CERAMIC 0.1U K 16V
C7818	3034093426	CERAMIC 0.1U K 16V
C7821	3034093426	CERAMIC 0.1U K 16V
C7823	3033701510	CERAMIC 0.1U K 50V
C7824	3034093426	CERAMIC 0.1U K 16V
C7826	3033984111	ELECT 47U M 16V
C7828	3034093426	CERAMIC 0.1U K 16V
C7831	3034093426	CERAMIC 0.1U K 16V
C7833	3033701510	CERAMIC 0.1U K 50V
C7834	3034093426	CERAMIC 0.1U K 16V
C7836	3033984111	ELECT 47U M 16V
C7838	3034093426	CERAMIC 0.1U K 16V
C7841	3034093426	CERAMIC 0.1U K 16V
C7843	3033701510	CERAMIC 0.1U K 50V
C7844	3034093426	CERAMIC 0.1U K 16V
C7846	3033984111	ELECT 47U M 16V
C7848	3034093426	CERAMIC 0.1U K 16V
C7851	3034093426	CERAMIC 0.1U K 16V
C7853	3033701510	CERAMIC 0.1U K 50V
C7854	3034093426	CERAMIC 0.1U K 16V
C7856	3033984111	ELECT 47U M 16V
C7858	3034093426	CERAMIC 0.1U K 16V
C7861	3034093426	CERAMIC 0.1U K 16V
C7863	3033701510	CERAMIC 0.1U K 50V
C7864	3034093426	CERAMIC 0.1U K 16V
C7866	3033984111	ELECT 47U M 16V
C7868	3034093426	CERAMIC 0.1U K 16V
C7881	3034093426	CERAMIC 0.1U K 16V
C7883	3034093426	CERAMIC 0.1U K 16V
C7884	3034093426	CERAMIC 0.1U K 16V
C7886	3034093426	CERAMIC 0.1U K 16V
C7887	3034093426	CERAMIC 0.1U K 16V
C7891	3034093426	CERAMIC 0.1U K 16V
C7892	3034093426	CERAMIC 0.1U K 16V
C8001	3033583215	CERAMIC 10U K 6.3V
C8002	3033583215	CERAMIC 10U K 6.3V
C8003	3034093426	CERAMIC 0.1U K 16V
C8004	3034093426	CERAMIC 0.1U K 16V
C8006	3032796210	CERAMIC 10P J 50V
C8007	3032796210	CERAMIC 10P J 50V
C8008	3034093426	CERAMIC 0.1U K 16V
C8009	3034093426	CERAMIC 0.1U K 16V
C8011	3034093426	CERAMIC 0.1U K 16V
C8013	3034093426	CERAMIC 0.1U K 16V
C8014	3034093426	CERAMIC 0.1U K 16V
C8016	3034093426	CERAMIC 0.1U K 16V
C8017	3033583215	CERAMIC 10U K 6.3V
C8018	3033583215	CERAMIC 10U K 6.3V
C8019	3033583215	CERAMIC 10U K 6.3V
C8022	3034093426	CERAMIC 0.1U K 16V
C8023	3034093426	CERAMIC 0.1U K 16V
C8024	3034093426	CERAMIC 0.1U K 16V
C8026	3034093426	CERAMIC 0.1U K 16V
C8027	3033583215	CERAMIC 10U K 6.3V
C8028	3034093426	CERAMIC 0.1U K 16V
C8029	3034093426	CERAMIC 0.1U K 16V
C8031	3034093426	CERAMIC 0.1U K 16V
C8032	3034093426	CERAMIC 0.1U K 16V
C8033	3034093426	CERAMIC 0.1U K 16V
C8034	3033583215	CERAMIC 10U K 6.3V

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Key No.	Part No.	Description
C8036	3034093426	CERAMIC 0.1U K 16V
C8037	3034093426	CERAMIC 0.1U K 16V
C8038	3034093426	CERAMIC 0.1U K 16V
C8039	3033583215	CERAMIC 10U K 6.3V
C8041	3034093426	CERAMIC 0.1U K 16V
C8071	3034093426	CERAMIC 0.1U K 16V
C8072	3034331112	CERAMIC 1U K 10V
C8081	3034331112	CERAMIC 1U K 10V
C8082	3033583215	CERAMIC 10U K 6.3V
C8083	3034331112	CERAMIC 1U K 10V
C8084	3033583215	CERAMIC 10U K 6.3V
C8086	3034331112	CERAMIC 1U K 10V
C8151	3033583215	CERAMIC 10U K 6.3V
C8152	3034093426	CERAMIC 0.1U K 16V
C8153	3033583215	CERAMIC 10U K 6.3V
C8201	3034093426	CERAMIC 0.1U K 16V
C8202	3033690527	CERAMIC 0.01U K 25V
C8203	3034093426	CERAMIC 0.1U K 16V
C8204	3033690527	CERAMIC 0.01U K 25V
C8205	3032761317	CERAMIC 1000P K 50V
C8206	3034093426	CERAMIC 0.1U K 16V
C8207	3034093426	CERAMIC 0.1U K 16V
C8208	3033690527	CERAMIC 0.01U K 25V
C8209	3034093426	CERAMIC 0.1U K 16V
C8211	3034093426	CERAMIC 0.1U K 16V
C8212	3034093426	CERAMIC 0.1U K 16V
C8213	3034093426	CERAMIC 0.1U K 16V
C8214	3034093426	CERAMIC 0.1U K 16V
C8215	3032761317	CERAMIC 1000P K 50V
C8216	3034093426	CERAMIC 0.1U K 16V
C8217	3033797315	CERAMIC 4700P K 50V
C8218	3034093426	CERAMIC 0.1U K 16V
C8221	3034093426	CERAMIC 0.1U K 16V
C8222	3033583215	CERAMIC 10U K 6.3V
C8223	3034093426	CERAMIC 0.1U K 16V
C8224	3032761317	CERAMIC 1000P K 50V
C8226	3032761317	CERAMIC 1000P K 50V
C8227	3034093426	CERAMIC 0.1U K 16V
C8228	3032761317	CERAMIC 1000P K 50V
C8229	3032761317	CERAMIC 1000P K 50V
C8231	3034093426	CERAMIC 0.1U K 16V
C8232	3033583215	CERAMIC 10U K 6.3V
C8233	3034093426	CERAMIC 0.1U K 16V
C8234	3032761317	CERAMIC 1000P K 50V
C8236	3032761317	CERAMIC 1000P K 50V
C8237	3032761317	CERAMIC 1000P K 50V
C8238	3034093426	CERAMIC 0.1U K 16V
C8239	3032761317	CERAMIC 1000P K 50V
C8241	3033921215	ELECT 47U M 6.3V
C8242	3033690527	CERAMIC 0.01U K 25V
C8243	3034093426	CERAMIC 0.1U K 16V
C8244	3032761317	CERAMIC 1000P K 50V
C8246	3032761317	CERAMIC 1000P K 50V
C8247	3034093426	CERAMIC 0.1U K 16V
C8248	3033583215	CERAMIC 10U K 6.3V
C8249	3034093426	CERAMIC 0.1U K 16V
C8251	3032761317	CERAMIC 1000P K 50V
C8252	3034093426	CERAMIC 0.1U K 16V
C8253	3032761317	CERAMIC 1000P K 50V
C8254	3033583215	CERAMIC 10U K 6.3V
C8256	3034093426	CERAMIC 0.1U K 16V
C8257	3032761317	CERAMIC 1000P K 50V
C8258	3032761317	CERAMIC 1000P K 50V
C8259	3034093426	CERAMIC 0.1U K 16V
C8261	3032761317	CERAMIC 1000P K 50V
C8262	3032761317	CERAMIC 1000P K 50V
C8263	3034093426	CERAMIC 0.1U K 16V
C8264	3033583215	CERAMIC 10U K 6.3V
C8281	3034331112	CERAMIC 1U K 10V
C8282	3033583215	CERAMIC 10U K 6.3V
C8301	3034093426	CERAMIC 0.1U K 16V
C8302	3034093426	CERAMIC 0.1U K 16V
C8303	3034093426	CERAMIC 0.1U K 16V
C8304	3034093426	CERAMIC 0.1U K 16V
C8306	3034093426	CERAMIC 0.1U K 16V
C8307	3034093426	CERAMIC 0.1U K 16V
C8308	3034093426	CERAMIC 0.1U K 16V
C8309	3034093426	CERAMIC 0.1U K 16V
C8311	3034093426	CERAMIC 0.1U K 16V
C8312	3032763113	CERAMIC 33P J 50V
C8313	3032763113	CERAMIC 33P J 50V
C8314	3034093426	CERAMIC 0.1U K 16V
C8316	3034093426	CERAMIC 0.1U K 16V
C8317	3034093426	CERAMIC 0.1U K 16V
C8318	3034093426	CERAMIC 0.1U K 16V
C8319	3034093426	CERAMIC 0.1U K 16V
C8341	3034093426	CERAMIC 0.1U K 16V
C8342	3034093426	CERAMIC 0.1U K 16V
C8343	3032946110	CERAMIC 100P J 50V
C8344	3032946110	CERAMIC 100P J 50V
C8371	3033583215	CERAMIC 10U K 6.3V
C8372	3034331112	CERAMIC 1U K 10V
C8821	3034093426	CERAMIC 0.1U K 16V
C8841	3034093426	CERAMIC 0.1U K 16V
C8851	3034093426	CERAMIC 0.1U K 16V
C9711	3034093426	CERAMIC 0.1U K 16V
C9801	3034093426	CERAMIC 0.1U K 16V
D003	3071630414	DIODE 1SS352-(TPH3)
D004	3071630414	DIODE 1SS352-(TPH3)
D2511	3072500716	DIODE RB060M-30-TR
D2512	3072500716	DIODE RB060M-30-TR
D2513	3072500716	DIODE RB060M-30-TR
D2514	3072500716	DIODE RB060M-30-TR
D2519	3072012724	DIODE RB051L-40-TE25
D2531	3072500716	DIODE RB060M-30-TR
D2541	3072055216	DIODE RB521S-30-TE61
D2542	3072055216	DIODE RB521S-30-TE61
D2543	3072055216	DIODE RB521S-30-TE61
D2544	3072055216	DIODE RB521S-30-TE61
D2546	3072055216	DIODE RB521S-30-TE61
D2547	3072055216	DIODE RB521S-30-TE61
D2548	3072055216	DIODE RB521S-30-TE61
D2549	3072055216	DIODE RB521S-30-TE61
D2831	3071490810	DIODE 1SS355-TE-17
D2832	3071490810	DIODE 1SS355-TE-17
D2833	3071490810	DIODE 1SS355-TE-17
D2834	3071490810	DIODE 1SS355-TE-17
D2836	3071490810	DIODE 1SS355-TE-17
D2837	3071490810	DIODE 1SS355-TE-17
D2838	3071490810	DIODE 1SS355-TE-17
D2839	3071490810	DIODE 1SS355-TE-17
D2851	3072091214	ZD UDZS-TE-176.2B
D3041	3072217119	ZENER DIODE UDZS-TE-1712B
D3042	3072217119	ZENER DIODE UDZS-TE-1712B
D3043	3072055216	DIODE RB521S-30-TE61
D3044	3072055216	DIODE RB521S-30-TE61
D3046	3072091214	ZD UDZS-TE-176.2B
D3508	4072661414	ZENER DIODE TDZTR10
D3514	4072512825	DIODE CMS14-TE12L
D3517	4072512825	DIODE CMS14-TE12L
D3651	3071490810	DIODE 1SS355-TE-17
D4054	3072055216	DIODE RB521S-30-TE61
D4701	3072091214	ZD UDZS-TE-176.2B
D5061	3071490810	DIODE 1SS355-TE-17
D5611	3072012724	DIODE RB051L-40-TE25
D5621	3072217119	ZENER DIODE UDZS-TE-1712B
D5641	3072012724	DIODE RB051L-40-TE25
D5642	3072012724	DIODE RB051L-40-TE25
D5801	3072055216	DIODE RB521S-30-TE61
D7811	3071490810	DIODE 1SS355-TE-17
D7812	3071490810	DIODE 1SS355-TE-17
D7821	3071490810	DIODE 1SS355-TE-17

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Key No.	Part No.	Description
D7831	3071490810	DIODE 1SS355-TE-17
D7841	3071490810	DIODE 1SS355-TE-17
D7851	3071490810	DIODE 1SS355-TE-17
D7861	3071490810	DIODE 1SS355-TE-17
D7891	3071490810	DIODE 1SS355-TE-17
D8081	3072500716	DIODE RB060M-30-TR
FB5601	9450411954	INDUCTOR,100 OHM
FB5602	9450411954	INDUCTOR,100 OHM
FB5603	9450411954	INDUCTOR,100 OHM
FB5604	9450411954	INDUCTOR,100 OHM
IC001	4096952017	IC LV49152V-TLM-E
* IC1401	4107354905	IC S29PL127J60TFI130-1458 (CW230)
* IC1401	4107355001	IC S29PL127J60TFI130-1459 (CX200)
IC1411	4107117104	IC CY62157EV30LL-45ZSXIT
IC1421	4106458505	IC EDE5116AJBG-6E-E
IC1431	3105384907	IC 24LC64T-I/SNG
IC1451	4106596504	IC PQ1DX095MZPQ
IC1491	3094875727	IC TC7SZ125FU
IC1492	4106772205	IC TC7PA05FU(TE85L,F)
IC2501	4107336703	IC 2506224-0005
IC2571	4096956817	IC UPC393GR-9LG-E1-A
IC2851	3105960101	IC 74LVC14APW,118
IC3501	4107072502	IC 2506593-0005B
IC3821	3094398919	IC TC7WH125FU
IC3831	3094398919	IC TC7WH125FU
IC4001	4106864702	IC EL5306IUZ-T7
IC401	4107068703	IC 2509006-0002
IC4011	3103581506	IC TC74HC4053AFT(EL)
IC4021	3094398919	IC TC7WH125FU
IC4031	3105960101	IC 74LVC14APW,118
IC4051	3094007118	IC TC7W53FU-(TE12L)
IC4501	4107333108	IC MB95F353EPFT-G-SNERE2
IC4511	3091558019	IC TC7S04F-TE85L
IC4701	3105960101	IC 74LVC14APW,118
IC4721	3094047213	IC TC7SET00FU-(TE85L)
IC491	4106477902	IC MCP103T-300
IC5081	3104794004	IC TC7WBD125AFK
IC5101	4096835716	IC NJW1156AV
IC5151	3094875727	IC TC7SZ125FU
IC5611	3095316229	IC FA7701V-TE1
IC5631	3096751316	IC FA7703V-H1
IC5851	4097142011	IC TC7SH00FU(TE85L JF
IC5852	3095859419	IC TC74VCX32FT
IC6201	3094620327	IC 24LC21AT/SN
IC6202	3105176809	IC TC74LVX4053FT
IC7811	3094617822	IC PQ20WZ11
IC7821	3094617822	IC PQ20WZ11
IC7831	3094617822	IC PQ20WZ11
IC7841	3094617822	IC PQ20WZ11
IC7851	3094617822	IC PQ20WZ11
IC7861	3094617822	IC PQ20WZ11
IC7881	3094583414	IC M62393FP
IC8001	4096985510	IC SII9127ACTU
IC8071	3095455710	IC XC6202P502M
IC8081	4107357500	IC TJ3965GRS-ADJ-5L
IC8082	4096996516	IC TA48S00AF
IC8151	3095796516	IC PCM1754DBQR
IC8201	4107067607	IC 2509209-0001
IC8281	4096996516	IC TA48S00AF
IC8301	4107356008	IC PIC18F67J60-I/PT-MB2AC
IC8303	4106815506	IC LE25FU106BMA-TLM-H
IC8821	4106312708	IC MCP9801T-M/SN
IC9711	3094875727	IC TC7SZ125FU
IC9801	3094875727	IC TC7SZ125FU
K10A	6520032194	SOCKET,HDMI 19P
K30A	9520018601	SOCKET,D-SUB 15P
K30B	9520018571	SOCKET,D-SUB 15P
K38C	6450952647	SOCKET,USB 4P
K83A	6520032743	TRANS,PULSE
L001	9450411978	INDUCTOR,330 OHM
L002	9450751012	INDUCTOR,33U M
L003	9450751012	INDUCTOR,33U M
L1001	9450703660	INDUCTOR,90 OHM
L1002	9450703660	INDUCTOR,90 OHM
L1003	9450703660	INDUCTOR,90 OHM
L1004	9450703660	INDUCTOR,90 OHM
L1421	6450535482	IMPEDANCE,68 OHM P
L1481	6450535482	IMPEDANCE,68 OHM P
L1482	6450535482	IMPEDANCE,68 OHM P
L1483	6450535482	IMPEDANCE,68 OHM P
L1484	6450535482	IMPEDANCE,68 OHM P
L2511	6520028784	INDUCTOR,10U,N
L2512	6520028784	INDUCTOR,10U,N
L2516	6520031890	INDUCTOR,15U, M
L2518	9450622879	INDUCTOR,4.7U M
L2531	6520028777	INDUCTOR,33U,N
L2541	9450411954	INDUCTOR,100 OHM
L2542	9450411954	INDUCTOR,100 OHM
L2543	9450411954	INDUCTOR,100 OHM
L2544	9450411954	INDUCTOR,100 OHM
L2546	9450411954	INDUCTOR,100 OHM
L2822	6450923616	IMPEDANCE,22 OHM P
L3001	9450867577	FILTER,EMI 400MHZ
L3011	9450867577	FILTER,EMI 400MHZ
L3021	9450867577	FILTER,EMI 400MHZ
L3031	9450867560	FILTER,EMI 200MHZ
L3032	9450867560	FILTER,EMI 200MHZ
L3041	9450866037	IMPEDANCE,330 OHM P
L3051	9450867577	FILTER,EMI 400MHZ
L3061	9450867577	FILTER,EMI 400MHZ
L3071	9450867577	FILTER,EMI 400MHZ
L3081	9450867560	FILTER,EMI 200MHZ
L3082	9450867560	FILTER,EMI 200MHZ
L3501	9450865368	IMPEDANCE,220 OHM P
L3506	9450865368	IMPEDANCE,220 OHM P
L3514	6450994913	INDUCTOR,22U M
L3517	6450994913	INDUCTOR,22U M
L3531	9450865368	IMPEDANCE,220 OHM P
L3532	6450535482	IMPEDANCE,68 OHM P
L4711	6450923616	IMPEDANCE,22 OHM P
L4714	6450923616	IMPEDANCE,22 OHM P
L4716	6450923616	IMPEDANCE,22 OHM P
L5101	9450411978	INDUCTOR,330 OHM
L5601	6450535482	IMPEDANCE,68 OHM P
L5602	6450535482	IMPEDANCE,68 OHM P
L5611	9450337995	INDUCTOR,100U M
L5613	3011506014	MT-GLAZE 0.000 ZA 1/10W
L5613	3011506014	MT-GLAZE 0.000 ZA 1/10W
L5641	6520028784	INDUCTOR,10U,N
L5642	9450337995	INDUCTOR,100U M
L5801	6450931048	IMPEDANCE,120 OHM P
L5802	6450931048	IMPEDANCE,120 OHM P
L5803	6450931048	IMPEDANCE,120 OHM P
L5804	6450931048	IMPEDANCE,120 OHM P
L5805	6450931048	IMPEDANCE,120 OHM P
L5806	6450931048	IMPEDANCE,120 OHM P
L5807	6450931048	IMPEDANCE,120 OHM P
L5808	6450931048	IMPEDANCE,120 OHM P
L5809	6450931048	IMPEDANCE,120 OHM P
L5811	6450931048	IMPEDANCE,120 OHM P
L7811	9450411978	INDUCTOR,330 OHM
L7882	9450866037	IMPEDANCE,330 OHM P
L8001	9450866037	IMPEDANCE,330 OHM P
L8002	9450866037	IMPEDANCE,330 OHM P
L8003	9450866037	IMPEDANCE,330 OHM P
L8006	9450866037	IMPEDANCE,330 OHM P
L8007	9450866037	IMPEDANCE,330 OHM P
L8008	9450866037	IMPEDANCE,330 OHM P
L8081	9450411954	INDUCTOR,100 OHM
L8201	9450865368	IMPEDANCE,220 OHM P
L8202	9450865368	IMPEDANCE,220 OHM P
L8204	9450865368	IMPEDANCE,220 OHM P

Electrical Parts List

Key No.	Part No.	Description
L8205	9450865368	IMPEDANCE,220 OHM P
L8341	9450867461	FILTER,EMI 100MHZ
L8371	9450411954	INDUCTOR,100 OHM
L9801	9450866037	IMPEDANCE,330 OHM P
Q1481	3051739915	TR 2SC3928A1S
Q1482	4052275815	TR SFT1446-TL-H
Q2021	3051739915	TR 2SC3928A1S
Q2031	3051739915	TR 2SC3928A1S
Q2041	3051739915	TR 2SC3928A1S
Q2516	4052275815	TR SFT1446-TL-H
Q2524	4052275815	TR SFT1446-TL-H
Q2851	3051739915	TR 2SC3928A1S
Q3001	3051739915	TR 2SC3928A1S
Q3011	3051739915	TR 2SC3928A1S
Q3021	3051739915	TR 2SC3928A1S
Q3031	3051739915	TR 2SC3928A1S
Q3032	3051739915	TR 2SC3928A1S
Q3033	3051739915	TR 2SC3928A1S
Q3051	3051739915	TR 2SC3928A1S
Q3052	4052203016	TR ISA1235AC1F
Q3061	3051739915	TR 2SC3928A1S
Q3062	4052203016	TR ISA1235AC1F
Q3071	3051739915	TR 2SC3928A1S
Q3072	4052203016	TR ISA1235AC1F
Q3081	3051739915	TR 2SC3928A1S
Q3082	3051739915	TR 2SC3928A1S
Q3083	3051739915	TR 2SC3928A1S
Q3084	3051739915	TR 2SC3928A1S
Q3651	3051739915	TR 2SC3928A1S
Q3831	3051739915	TR 2SC3928A1S
Q4011	4052203016	TR ISA1235AC1F
Q4012	3051739915	TR 2SC3928A1S
Q4021	3051739915	TR 2SC3928A1S
Q4051	3051739915	TR 2SC3928A1S
Q4052	4052203016	TR ISA1235AC1F
Q4053	3051739915	TR 2SC3928A1S
Q4701	4052203016	TR ISA1235AC1F
Q4702	3051915814	TR 3LN01C-TB-E
Q4703	3051915814	TR 3LN01C-TB-E
Q5061	3051739915	TR 2SC3928A1S
Q5091	3051739915	TR 2SC3928A1S
Q5101	3052176917	TR TPC6107 TE85L
Q5102	3051739915	TR 2SC3928A1S
Q5121	3051739915	TR 2SC3928A1S
Q5122	3051739915	TR 2SC3928A1S
Q5123	3051739915	TR 2SC3928A1S
Q5124	3051739915	TR 2SC3928A1S
Q5131	4052203016	TR ISA1235AC1F
Q5141	3051739915	TR 2SC3928A1S
Q5142	3051739915	TR 2SC3928A1S
Q5151	3051739915	TR 2SC3928A1S
Q5152	3051739915	TR 2SC3928A1S
Q5611	3052178515	TR RSQ025P03-TR
Q5621	3051739915	TR 2SC3928A1S
Q5622	3051739915	TR 2SC3928A1S
Q5631	3051739915	TR 2SC3928A1S
Q5632	3051739915	TR 2SC3928A1S
Q5641	3052178515	TR RSQ025P03-TR
Q5642	3052178515	TR RSQ025P03-TR
Q5651	3050479010	TR 2SB1204-S-TL-E
Q5652	3051739915	TR 2SC3928A1S
Q5661	3052176917	TR TPC6107 TE85L
Q5662	3051739915	TR 2SC3928A1S
Q6201	3051739915	TR 2SC3928A1S
Q6221	3051915814	TR 3LN01C-TB-E
Q6222	3051915814	TR 3LN01C-TB-E
Q7801	3052175019	TR RN1117 TE85L
Q7802	3052175019	TR RN1117 TE85L
Q7811	3051739915	TR 2SC3928A1S
Q7821	3051739915	TR 2SC3928A1S
Q7831	3051739915	TR 2SC3928A1S
Q7841	3051739915	TR 2SC3928A1S
Q7851	3051739915	TR 2SC3928A1S
Q7861	3051739915	TR 2SC3928A1S
Q7871	3051915814	TR 3LN01C-TB-E
Q7872	3051915814	TR 3LN01C-TB-E
Q7891	3051739915	TR 2SC3928A1S
Q8001	3051739915	TR 2SC3928A1S
Q8002	4052203016	TR ISA1235AC1F
Q8091	3051739915	TR 2SC3928A1S
Q8291	3051739915	TR 2SC3928A1S
Q8371	3052176917	TR TPC6107 TE85L
Q8372	3051739915	TR 2SC3928A1S
R003	3012261516	MT-GLAZE 0.000 ZA 1/16W
R004	3012943016	MT-GLAZE 10K FA 1/16W
R008	3012249019	MT-GLAZE 10K JA 1/16W
R1001	4013330525	MT-GLAZE 1.2 JA 1/16W
R1002	4013330525	MT-GLAZE 1.2 JA 1/16W
R1003	4013330525	MT-GLAZE 1.2 JA 1/16W
R1004	4013330525	MT-GLAZE 1.2 JA 1/16W
R1006	4013330525	MT-GLAZE 1.2 JA 1/16W
R1007	4013330525	MT-GLAZE 1.2 JA 1/16W
R1008	4013330525	MT-GLAZE 1.2 JA 1/16W
R1009	4013330525	MT-GLAZE 1.2 JA 1/16W
R1016	3012251418	MT-GLAZE 47K JA 1/16W
R1017	3012251418	MT-GLAZE 47K JA 1/16W
R1401	3012249019	MT-GLAZE 10K JA 1/16W
R1402	3012261516	MT-GLAZE 0.000 ZA 1/16W
R1411	3012261516	MT-GLAZE 0.000 ZA 1/16W
R1412	3012261516	MT-GLAZE 0.000 ZA 1/16W
R1413	3012261516	MT-GLAZE 0.000 ZA 1/16W
R1418	3012258110	MT-GLAZE 10 JA 1/16W
R1419	3012258110	MT-GLAZE 10 JA 1/16W
R1421	3012251913	MT-GLAZE 68 JA 1/16W
R1422	3012251913	MT-GLAZE 68 JA 1/16W
R1423	3012251913	MT-GLAZE 68 JA 1/16W
R1424	3012251913	MT-GLAZE 68 JA 1/16W
R1426	3012251913	MT-GLAZE 68 JA 1/16W
R1427	3012251913	MT-GLAZE 68 JA 1/16W
R1428	3012251913	MT-GLAZE 68 JA 1/16W
R1429	3012251913	MT-GLAZE 68 JA 1/16W
R1431	3012251913	MT-GLAZE 68 JA 1/16W
R1432	3012251913	MT-GLAZE 68 JA 1/16W
R1433	3012251913	MT-GLAZE 68 JA 1/16W
R1434	3012251913	MT-GLAZE 68 JA 1/16W
R1436	3012251913	MT-GLAZE 68 JA 1/16W
R1437	3012251913	MT-GLAZE 68 JA 1/16W
R1438	3012251913	MT-GLAZE 68 JA 1/16W
R1439	3012251913	MT-GLAZE 68 JA 1/16W
R1441	3012251913	MT-GLAZE 68 JA 1/16W
R1442	3012251913	MT-GLAZE 68 JA 1/16W
R1443	3012251913	MT-GLAZE 68 JA 1/16W
R1444	3012251913	MT-GLAZE 68 JA 1/16W
R1446	3012251913	MT-GLAZE 68 JA 1/16W
R1451	3012261516	MT-GLAZE 0.000 ZA 1/16W
R1452	3012261516	MT-GLAZE 0.000 ZA 1/16W
R1476	3012248814	MT-GLAZE 100 JA 1/16W
R1477	3012248814	MT-GLAZE 100 JA 1/16W
R1481	3012249019	MT-GLAZE 10K JA 1/16W
R1482	3012248913	MT-GLAZE 100K JA 1/16W
R1483	3012249316	MT-GLAZE 1K JA 1/16W
R1491	3012249019	MT-GLAZE 10K JA 1/16W
R1492	3012249019	MT-GLAZE 10K JA 1/16W
R1493	3012249019	MT-GLAZE 10K JA 1/16W
R1494	3012249019	MT-GLAZE 10K JA 1/16W
R1495	3012249019	MT-GLAZE 10K JA 1/16W
R1496	3012249019	MT-GLAZE 10K JA 1/16W
R1498	3012249019	MT-GLAZE 10K JA 1/16W
R1499	3012249316	MT-GLAZE 1K JA 1/16W
R2021	3012258110	MT-GLAZE 10 JA 1/16W
R2022	3012251418	MT-GLAZE 47K JA 1/16W
R2023	3012250718	MT-GLAZE 56K JA 1/16W

Electrical Parts List

Key No.	Part No.	Description
R2024	3012251319	MT-GLAZE 470 JA 1/16W
R2026	3012249316	MT-GLAZE 1K JA 1/16W
R2027	3012248814	MT-GLAZE 100 JA 1/16W
R2031	3012258110	MT-GLAZE 10 JA 1/16W
R2032	3012251418	MT-GLAZE 47K JA 1/16W
R2033	3012250718	MT-GLAZE 56K JA 1/16W
R2034	3012251319	MT-GLAZE 470 JA 1/16W
R2036	3012249316	MT-GLAZE 1K JA 1/16W
R2037	3012248814	MT-GLAZE 100 JA 1/16W
R2041	3012258110	MT-GLAZE 10 JA 1/16W
R2042	3012251418	MT-GLAZE 47K JA 1/16W
R2043	3012250718	MT-GLAZE 56K JA 1/16W
R2044	3012251319	MT-GLAZE 470 JA 1/16W
R2046	3012249316	MT-GLAZE 1K JA 1/16W
R2047	3012248814	MT-GLAZE 100 JA 1/16W
R2049	3012248814	MT-GLAZE 100 JA 1/16W
R2517	3013043616	MT-GLAZE 1K DA 1/16W
R2518	4013456215	MT-GLAZE 2K DA 1/16W
R2519	3012901511	MT-GLAZE 0.1 JE 1/2W
R2522	4013456215	MT-GLAZE 2K DA 1/16W
R2523	3013386713	MT-GLAZE 1.6K FA 1/16W
R2525	4013456215	MT-GLAZE 2K DA 1/16W
R2526	3013386713	MT-GLAZE 1.6K FA 1/16W
R2528	3012250213	MT-GLAZE 3.3K JA 1/16W
R2529	3012943016	MT-GLAZE 10K FA 1/16W
R2533	3012942712	MT-GLAZE 150 FA 1/16W
R2536	3012250213	MT-GLAZE 3.3K JA 1/16W
R2537	3012250213	MT-GLAZE 3.3K JA 1/16W
R2538	3012250213	MT-GLAZE 3.3K JA 1/16W
R2539	3012250213	MT-GLAZE 3.3K JA 1/16W
R2553	3012942712	MT-GLAZE 150 FA 1/16W
R2554	3012942712	MT-GLAZE 150 FA 1/16W
R2556	3012640311	MT-GLAZE 1 JA 1/10W
R2557	3012261516	MT-GLAZE 0.000 ZA 1/16W
R2558	3012261516	MT-GLAZE 0.000 ZA 1/16W
R2559	3012261516	MT-GLAZE 0.000 ZA 1/16W
R2561	3012640311	MT-GLAZE 1 JA 1/10W
R2571	3012250213	MT-GLAZE 3.3K JA 1/16W
R2572	3012248913	MT-GLAZE 100K JA 1/16W
R2573	3012261516	MT-GLAZE 0.000 ZA 1/16W
R2574	3012249019	MT-GLAZE 10K JA 1/16W
R2576	3012249019	MT-GLAZE 10K JA 1/16W
R2578	3012259018	MT-GLAZE 470K JA 1/16W
R2831	3012251210	MT-GLAZE 4.7K JA 1/16W
R2832	3012251210	MT-GLAZE 4.7K JA 1/16W
R2833	3012251210	MT-GLAZE 4.7K JA 1/16W
R2834	3012251210	MT-GLAZE 4.7K JA 1/16W
R2836	3012251210	MT-GLAZE 4.7K JA 1/16W
R2837	3012251210	MT-GLAZE 4.7K JA 1/16W
R2838	3012251210	MT-GLAZE 4.7K JA 1/16W
R2839	3012251210	MT-GLAZE 4.7K JA 1/16W
R2851	3012261516	MT-GLAZE 0.000 ZA 1/16W
R2852	3012261516	MT-GLAZE 0.000 ZA 1/16W
R2853	3012261516	MT-GLAZE 0.000 ZA 1/16W
R2854	3012249316	MT-GLAZE 1K JA 1/16W
R2856	3012249019	MT-GLAZE 10K JA 1/16W
R2857	3012261516	MT-GLAZE 0.000 ZA 1/16W
R2858	3012249019	MT-GLAZE 10K JA 1/16W
R2859	3012258110	MT-GLAZE 10 JA 1/16W
R2861	3012248814	MT-GLAZE 100 JA 1/16W
R3001	3012654912	MT-GLAZE 75 FA 1/10W
R3004	3012251814	MT-GLAZE 47 JA 1/16W
R3006	3012253818	MT-GLAZE 1.5K JA 1/16W
R3007	3012258110	MT-GLAZE 10 JA 1/16W
R3011	3012654912	MT-GLAZE 75 FA 1/10W
R3014	3012251814	MT-GLAZE 47 JA 1/16W
R3016	3012253818	MT-GLAZE 1.5K JA 1/16W
R3017	3012258110	MT-GLAZE 10 JA 1/16W
R3021	3012654912	MT-GLAZE 75 FA 1/10W
R3024	3012251814	MT-GLAZE 47 JA 1/16W
R3026	3012253818	MT-GLAZE 1.5K JA 1/16W
R3027	3012258110	MT-GLAZE 10 JA 1/16W
R3031	3012251418	MT-GLAZE 47K JA 1/16W
R3032	3012251418	MT-GLAZE 47K JA 1/16W
R3033	3012249316	MT-GLAZE 1K JA 1/16W
R3034	3012942811	MT-GLAZE 2.2K FA 1/16W
R3036	3012249019	MT-GLAZE 10K JA 1/16W
R3037	3012249019	MT-GLAZE 10K JA 1/16W
R3038	3012249019	MT-GLAZE 10K JA 1/16W
R3041	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3042	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3051	3012654912	MT-GLAZE 75 FA 1/10W
R3054	3012251814	MT-GLAZE 47 JA 1/16W
R3056	3012253818	MT-GLAZE 1.5K JA 1/16W
R3057	3012258110	MT-GLAZE 10 JA 1/16W
R3058	3012249316	MT-GLAZE 1K JA 1/16W
R3059	3013025414	MT-GLAZE 220 FA 1/16W
R3061	3012654912	MT-GLAZE 75 FA 1/10W
R3064	3012251814	MT-GLAZE 47 JA 1/16W
R3066	3012253818	MT-GLAZE 1.5K JA 1/16W
R3067	3012258110	MT-GLAZE 10 JA 1/16W
R3068	3012249316	MT-GLAZE 1K JA 1/16W
R3069	3013025414	MT-GLAZE 220 FA 1/16W
R3071	3012654912	MT-GLAZE 75 FA 1/10W
R3074	3012251814	MT-GLAZE 47 JA 1/16W
R3076	3012253818	MT-GLAZE 1.5K JA 1/16W
R3077	3012258110	MT-GLAZE 10 JA 1/16W
R3078	3012249316	MT-GLAZE 1K JA 1/16W
R3079	3013025414	MT-GLAZE 220 FA 1/16W
R3081	3012251418	MT-GLAZE 47K JA 1/16W
R3082	3012251418	MT-GLAZE 47K JA 1/16W
R3083	3012942811	MT-GLAZE 2.2K FA 1/16W
R3084	3012249316	MT-GLAZE 1K JA 1/16W
R3086	3012249316	MT-GLAZE 1K JA 1/16W
R3087	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3088	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3091	3012251210	MT-GLAZE 4.7K JA 1/16W
R3092	3012251210	MT-GLAZE 4.7K JA 1/16W
R3093	3012249019	MT-GLAZE 10K JA 1/16W
R3094	3012251418	MT-GLAZE 47K JA 1/16W
R3651	3012251418	MT-GLAZE 47K JA 1/16W
R3652	3012597823	MT-GLAZE 20K JA 1/16W
R3653	3012249019	MT-GLAZE 10K JA 1/16W
R3654	3012249019	MT-GLAZE 10K JA 1/16W
R3811	3012258110	MT-GLAZE 10 JA 1/16W
R3812	3012258110	MT-GLAZE 10 JA 1/16W
R3816	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3817	3012261516	MT-GLAZE 0.000 ZA 1/16W
R3824	3012249019	MT-GLAZE 10K JA 1/16W
R3833	3012249019	MT-GLAZE 10K JA 1/16W
R3834	3012249019	MT-GLAZE 10K JA 1/16W
R4001	3012248814	MT-GLAZE 100 JA 1/16W
R4002	3012248814	MT-GLAZE 100 JA 1/16W
R4003	3012248814	MT-GLAZE 100 JA 1/16W
R4004	3012637420	MT-GLAZE 75 JA 1/16W
R4006	3012637420	MT-GLAZE 75 JA 1/16W
R4007	3012637420	MT-GLAZE 75 JA 1/16W
R4009	3012248814	MT-GLAZE 100 JA 1/16W
R401	3012249415	MT-GLAZE 1M JA 1/16W
R4011	3012249316	MT-GLAZE 1K JA 1/16W
R4012	3012249316	MT-GLAZE 1K JA 1/16W
R4013	3012942811	MT-GLAZE 2.2K FA 1/16W
R4014	3012249019	MT-GLAZE 10K JA 1/16W
R4016	3012942811	MT-GLAZE 2.2K FA 1/16W
R4017	3012251418	MT-GLAZE 47K JA 1/16W
R402	3012253818	MT-GLAZE 1.5K JA 1/16W
R4021	3012248814	MT-GLAZE 100 JA 1/16W
R4022	3012248814	MT-GLAZE 100 JA 1/16W
R4023	3012249019	MT-GLAZE 10K JA 1/16W
R4024	3012251418	MT-GLAZE 47K JA 1/16W
R403	3012644616	MT-GLAZE 180 FA 1/10W
R404	3012644616	MT-GLAZE 180 FA 1/10W

Electrical Parts List

Key No.	Part No.	Description
R4051	3012251814	MT-GLAZE 47 JA 1/16W
R4052	3012251210	MT-GLAZE 4.7K JA 1/16W
R4053	3012251210	MT-GLAZE 4.7K JA 1/16W
R4054	3012251210	MT-GLAZE 4.7K JA 1/16W
R4055	3012251319	MT-GLAZE 470 JA 1/16W
R4056	3012249019	MT-GLAZE 10K JA 1/16W
R4057	3012258011	MT-GLAZE 330 JA 1/16W
R4058	3012249019	MT-GLAZE 10K JA 1/16W
R4059	3012251210	MT-GLAZE 4.7K JA 1/16W
R406	3012249316	MT-GLAZE 1K JA 1/16W
R407	3012250213	MT-GLAZE 3.3K JA 1/16W
R408	3012250312	MT-GLAZE 33 JA 1/16W
R411	3012261516	MT-GLAZE 0.000 ZA 1/16W
R412	3012261516	MT-GLAZE 0.000 ZA 1/16W
R413	3012250312	MT-GLAZE 33 JA 1/16W
R414	3012261516	MT-GLAZE 0.000 ZA 1/16W
R416	3012250312	MT-GLAZE 33 JA 1/16W
R417	3012250312	MT-GLAZE 33 JA 1/16W
R418	3012250312	MT-GLAZE 33 JA 1/16W
R419	3012250312	MT-GLAZE 33 JA 1/16W
R421	3012250312	MT-GLAZE 33 JA 1/16W
R423	3012250312	MT-GLAZE 33 JA 1/16W
R424	3012250312	MT-GLAZE 33 JA 1/16W
R426	3012249316	MT-GLAZE 1K JA 1/16W
R427	3012249316	MT-GLAZE 1K JA 1/16W
R431	3012251210	MT-GLAZE 4.7K JA 1/16W
R433	3012251210	MT-GLAZE 4.7K JA 1/16W
R434	3012261516	MT-GLAZE 0.000 ZA 1/16W
R436	3012249316	MT-GLAZE 1K JA 1/16W
R437	3012250213	MT-GLAZE 3.3K JA 1/16W
R438	3012250213	MT-GLAZE 3.3K JA 1/16W
R439	3012250213	MT-GLAZE 3.3K JA 1/16W
R441	3012250312	MT-GLAZE 33 JA 1/16W
R442	3012250312	MT-GLAZE 33 JA 1/16W
R443	3012250312	MT-GLAZE 33 JA 1/16W
R444	3012249316	MT-GLAZE 1K JA 1/16W
R445	3012261516	MT-GLAZE 0.000 ZA 1/16W
R446	3012942811	MT-GLAZE 2.2K FA 1/16W
R447	3012942811	MT-GLAZE 2.2K FA 1/16W
R448	3012261516	MT-GLAZE 0.000 ZA 1/16W
R449	3012261516	MT-GLAZE 0.000 ZA 1/16W
R4503	3012249019	MT-GLAZE 10K JA 1/16W
R4506	3012249514	MT-GLAZE 2.2K JA 1/16W
R4507	3012258110	MT-GLAZE 10 JA 1/16W
R4508	3012249019	MT-GLAZE 10K JA 1/16W
R4509	3012258110	MT-GLAZE 10 JA 1/16W
R451	3012942811	MT-GLAZE 2.2K FA 1/16W
R4511	3012249019	MT-GLAZE 10K JA 1/16W
R4512	3012258110	MT-GLAZE 10 JA 1/16W
R4513	3012249019	MT-GLAZE 10K JA 1/16W
R4514	3012258110	MT-GLAZE 10 JA 1/16W
R4517	3012261516	MT-GLAZE 0.000 ZA 1/16W
R452	3012942811	MT-GLAZE 2.2K FA 1/16W
R4521	3012258110	MT-GLAZE 10 JA 1/16W
R4522	3012248814	MT-GLAZE 100 JA 1/16W
R4523	3012248814	MT-GLAZE 100 JA 1/16W
R4524	3012248913	MT-GLAZE 100K JA 1/16W
R4527	3012249019	MT-GLAZE 10K JA 1/16W
R4528	3012249712	MT-GLAZE 22 JA 1/16W
R4529	3012249019	MT-GLAZE 10K JA 1/16W
R453	3012251913	MT-GLAZE 68 JA 1/16W
R4531	3012249712	MT-GLAZE 22 JA 1/16W
R4532	3012249019	MT-GLAZE 10K JA 1/16W
R4533	3012249712	MT-GLAZE 22 JA 1/16W
R4534	3012249019	MT-GLAZE 10K JA 1/16W
R454	3012251913	MT-GLAZE 68 JA 1/16W
R4543	3012258110	MT-GLAZE 10 JA 1/16W
R4544	3012248913	MT-GLAZE 100K JA 1/16W
R4546	3012261516	MT-GLAZE 0.000 ZA 1/16W
R456	3012942811	MT-GLAZE 2.2K FA 1/16W
R457	3012942811	MT-GLAZE 2.2K FA 1/16W
R465	3012261516	MT-GLAZE 0.000 ZA 1/16W
R4701	3012251210	MT-GLAZE 4.7K JA 1/16W
R4703	3012250213	MT-GLAZE 3.3K JA 1/16W
R4707	3012248814	MT-GLAZE 100 JA 1/16W
R4708	3012248814	MT-GLAZE 100 JA 1/16W
R4709	3012261516	MT-GLAZE 0.000 ZA 1/16W
R4713	3012261516	MT-GLAZE 0.000 ZA 1/16W
R4714	3012942811	MT-GLAZE 2.2K FA 1/16W
R4716	3012249514	MT-GLAZE 2.2K JA 1/16W
R4718	3012261516	MT-GLAZE 0.000 ZA 1/16W
R4719	3012250213	MT-GLAZE 3.3K JA 1/16W
R4721	3012258110	MT-GLAZE 10 JA 1/16W
R4723	3012258110	MT-GLAZE 10 JA 1/16W
R4724	3012248814	MT-GLAZE 100 JA 1/16W
R475	3012261516	MT-GLAZE 0.000 ZA 1/16W
R479	3012261516	MT-GLAZE 0.000 ZA 1/16W
R493	3012258110	MT-GLAZE 10 JA 1/16W
R496	3012261516	MT-GLAZE 0.000 ZA 1/16W
R498	3012249019	MT-GLAZE 10K JA 1/16W
R5051	3012248814	MT-GLAZE 100 JA 1/16W
R5052	3012248814	MT-GLAZE 100 JA 1/16W
R5053	3012248814	MT-GLAZE 100 JA 1/16W
R5054	3012248814	MT-GLAZE 100 JA 1/16W
R5056	3012248814	MT-GLAZE 100 JA 1/16W
R5057	3012248814	MT-GLAZE 100 JA 1/16W
R5058	3012248814	MT-GLAZE 100 JA 1/16W
R5059	3012248814	MT-GLAZE 100 JA 1/16W
R5061	3012248913	MT-GLAZE 100K JA 1/16W
R5062	3012248913	MT-GLAZE 100K JA 1/16W
R5063	3012249415	MT-GLAZE 1M JA 1/16W
R5064	3012872227	MT-GLAZE 22K FA 1/16W
R5066	3011506014	MT-GLAZE 0.000 ZA 1/10W
R5081	3012251210	MT-GLAZE 4.7K JA 1/16W
R5082	3012251210	MT-GLAZE 4.7K JA 1/16W
R5093	3012995312	MT-GLAZE 12K FA 1/16W
R5094	3013388113	MT-GLAZE 1.2K FA 1/16W
R5096	3012249019	MT-GLAZE 10K JA 1/16W
R5101	3012258110	MT-GLAZE 10 JA 1/16W
R5102	3012258110	MT-GLAZE 10 JA 1/16W
R5103	3011506014	MT-GLAZE 0.000 ZA 1/10W
R5104	3012249316	MT-GLAZE 1K JA 1/16W
R5106	3012248814	MT-GLAZE 100 JA 1/16W
R5107	3012249316	MT-GLAZE 1K JA 1/16W
R5108	3012248814	MT-GLAZE 100 JA 1/16W
R5111	3012249019	MT-GLAZE 10K JA 1/16W
R5112	3012249019	MT-GLAZE 10K JA 1/16W
R5113	3012251210	MT-GLAZE 4.7K JA 1/16W
R5114	3012249019	MT-GLAZE 10K JA 1/16W
R5121	3012250213	MT-GLAZE 3.3K JA 1/16W
R5123	3012249316	MT-GLAZE 1K JA 1/16W
R5124	3012651614	MT-GLAZE 470 FA 1/10W
R5126	3012250213	MT-GLAZE 3.3K JA 1/16W
R5128	3012249316	MT-GLAZE 1K JA 1/16W
R5129	3012651614	MT-GLAZE 470 FA 1/10W
R5131	3012943016	MT-GLAZE 10K FA 1/16W
R5132	3012943016	MT-GLAZE 10K FA 1/16W
R5141	3012250213	MT-GLAZE 3.3K JA 1/16W
R5142	3012249316	MT-GLAZE 1K JA 1/16W
R5143	3012250213	MT-GLAZE 3.3K JA 1/16W
R5144	3012249316	MT-GLAZE 1K JA 1/16W
R5146	3012249316	MT-GLAZE 1K JA 1/16W
R5147	3012248913	MT-GLAZE 100K JA 1/16W
R5151	3012249019	MT-GLAZE 10K JA 1/16W
R5152	3012994810	MT-GLAZE 2.7K FA 1/16W
R5153	3012249316	MT-GLAZE 1K JA 1/16W
R5154	3012249019	MT-GLAZE 10K JA 1/16W
R5158	3012249316	MT-GLAZE 1K JA 1/16W
R5601	3012258110	MT-GLAZE 10 JA 1/16W
R5602	3012249019	MT-GLAZE 10K JA 1/16W
R5603	3012258110	MT-GLAZE 10 JA 1/16W
R5604	3012249019	MT-GLAZE 10K JA 1/16W

Electrical Parts List

Key No.	Part No.	Description
R5611	3012249415	MT-GLAZE 1M JA 1/16W
R5612	3012261516	MT-GLAZE 0.000 ZA 1/16W
R5613	3012249910	MT-GLAZE 22K JA 1/16W
R5614	3012597823	MT-GLAZE 20K JA 1/16W
R5616	3013043616	MT-GLAZE 1K DA 1/16W
R5617	3012994810	MT-GLAZE 2.7K FA 1/16W
R5621	3012248913	MT-GLAZE 100K JA 1/16W
R5622	3012248913	MT-GLAZE 100K JA 1/16W
R5623	3012248913	MT-GLAZE 100K JA 1/16W
R5624	3012249415	MT-GLAZE 1M JA 1/16W
R5630	3012249514	MT-GLAZE 2.2K JA 1/16W
R5631	3012249019	MT-GLAZE 10K JA 1/16W
R5632	3012249415	MT-GLAZE 1M JA 1/16W
R5633	3012597823	MT-GLAZE 20K JA 1/16W
R5634	3012249019	MT-GLAZE 10K JA 1/16W
R5635	3012249019	MT-GLAZE 10K JA 1/16W
R5636	3012249019	MT-GLAZE 10K JA 1/16W
R5637	4013456215	MT-GLAZE 2K DA 1/16W
R5638	3012872227	MT-GLAZE 22K FA 1/16W
R5639	3012597823	MT-GLAZE 20K JA 1/16W
R5641	4013456215	MT-GLAZE 2K DA 1/16W
R5642	3012872227	MT-GLAZE 22K FA 1/16W
R5643	3012261516	MT-GLAZE 0.000 ZA 1/16W
R5644	3012261516	MT-GLAZE 0.000 ZA 1/16W
R5651	3012249019	MT-GLAZE 10K JA 1/16W
R5652	3012308013	MT-GLAZE 1K JA 1/3W
R5653	3012249514	MT-GLAZE 2.2K JA 1/16W
R5654	3012249019	MT-GLAZE 10K JA 1/16W
R5661	3012249019	MT-GLAZE 10K JA 1/16W
R5662	3012251715	MT-GLAZE 39K JA 1/16W
R5663	3012249019	MT-GLAZE 10K JA 1/16W
R5664	3012249019	MT-GLAZE 10K JA 1/16W
R5803	3012249019	MT-GLAZE 10K JA 1/16W
R5811	6450931048	IMPEDANCE,120 OHM P
R5812	6450931048	IMPEDANCE,120 OHM P
R5813	6450931048	IMPEDANCE,120 OHM P
R5814	6450931048	IMPEDANCE,120 OHM P
R5815	6450931048	IMPEDANCE,120 OHM P
R5816	6450931048	IMPEDANCE,120 OHM P
R5817	6450931048	IMPEDANCE,120 OHM P
R5818	6450931048	IMPEDANCE,120 OHM P
R5819	6450931048	IMPEDANCE,120 OHM P
R5821	3012249316	MT-GLAZE 1K JA 1/16W
R5822	3012249316	MT-GLAZE 1K JA 1/16W
R5823	3012249316	MT-GLAZE 1K JA 1/16W
R5824	3012249316	MT-GLAZE 1K JA 1/16W
R5825	3012249316	MT-GLAZE 1K JA 1/16W
R5826	3012249316	MT-GLAZE 1K JA 1/16W
R5827	3012249316	MT-GLAZE 1K JA 1/16W
R5829	3012249316	MT-GLAZE 1K JA 1/16W
R5831	3012249019	MT-GLAZE 10K JA 1/16W
R5858	3012249019	MT-GLAZE 10K JA 1/16W
R6201	3012251210	MT-GLAZE 4.7K JA 1/16W
R6202	3012251210	MT-GLAZE 4.7K JA 1/16W
R6203	3012249019	MT-GLAZE 10K JA 1/16W
R6204	3012249019	MT-GLAZE 10K JA 1/16W
R6206	3012249019	MT-GLAZE 10K JA 1/16W
R6221	3012251210	MT-GLAZE 4.7K JA 1/16W
R6222	3012251210	MT-GLAZE 4.7K JA 1/16W
R6223	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6224	3012261516	MT-GLAZE 0.000 ZA 1/16W
R7801	3012249019	MT-GLAZE 10K JA 1/16W
R7802	3012249019	MT-GLAZE 10K JA 1/16W
R7803	3012249019	MT-GLAZE 10K JA 1/16W
R7804	3012249019	MT-GLAZE 10K JA 1/16W
R7805	3012249019	MT-GLAZE 10K JA 1/16W
R7806	3012249019	MT-GLAZE 10K JA 1/16W
R7807	3012249316	MT-GLAZE 1K JA 1/16W
R7808	3012249316	MT-GLAZE 1K JA 1/16W
R7809	3012249019	MT-GLAZE 10K JA 1/16W
R7811	3012249514	MT-GLAZE 2.2K JA 1/16W
R7812	3012843613	MT-GLAZE 16K JA 1/16W
R7813	3012250510	MT-GLAZE 33K JA 1/16W
R7814	3012249316	MT-GLAZE 1K JA 1/16W
R7815	3012249019	MT-GLAZE 10K JA 1/16W
R7816	3012249316	MT-GLAZE 1K JA 1/16W
R7817	3012611014	MT-GLAZE 2.4K JA 1/16W
R7818	3013368818	MT-GLAZE 6.8K FA 1/16W
R7819	3012942811	MT-GLAZE 2.2K FA 1/16W
R7821	3012249514	MT-GLAZE 2.2K JA 1/16W
R7822	3012843613	MT-GLAZE 16K JA 1/16W
R7823	3012250510	MT-GLAZE 33K JA 1/16W
R7824	3012249316	MT-GLAZE 1K JA 1/16W
R7826	3012249316	MT-GLAZE 1K JA 1/16W
R7827	3012611014	MT-GLAZE 2.4K JA 1/16W
R7828	3013368818	MT-GLAZE 6.8K FA 1/16W
R7829	3012942811	MT-GLAZE 2.2K FA 1/16W
R7831	3012249514	MT-GLAZE 2.2K JA 1/16W
R7832	3012843613	MT-GLAZE 16K JA 1/16W
R7833	3012250510	MT-GLAZE 33K JA 1/16W
R7834	3012249316	MT-GLAZE 1K JA 1/16W
R7836	3012249316	MT-GLAZE 1K JA 1/16W
R7837	3012611014	MT-GLAZE 2.4K JA 1/16W
R7838	3013368818	MT-GLAZE 6.8K FA 1/16W
R7839	3012942811	MT-GLAZE 2.2K FA 1/16W
R7841	3012249514	MT-GLAZE 2.2K JA 1/16W
R7842	3012843613	MT-GLAZE 16K JA 1/16W
R7843	3012250510	MT-GLAZE 33K JA 1/16W
R7844	3012249316	MT-GLAZE 1K JA 1/16W
R7846	3012249316	MT-GLAZE 1K JA 1/16W
R7847	3012611014	MT-GLAZE 2.4K JA 1/16W
R7848	3013368818	MT-GLAZE 6.8K FA 1/16W
R7849	3012942811	MT-GLAZE 2.2K FA 1/16W
R7851	3012249514	MT-GLAZE 2.2K JA 1/16W
R7852	3012843613	MT-GLAZE 16K JA 1/16W
R7853	3012250510	MT-GLAZE 33K JA 1/16W
R7854	3012249316	MT-GLAZE 1K JA 1/16W
R7856	3012249316	MT-GLAZE 1K JA 1/16W
R7857	3012611014	MT-GLAZE 2.4K JA 1/16W
R7858	3013368818	MT-GLAZE 6.8K FA 1/16W
R7859	3012942811	MT-GLAZE 2.2K FA 1/16W
R7861	3012249514	MT-GLAZE 2.2K JA 1/16W
R7862	3012843613	MT-GLAZE 16K JA 1/16W
R7863	3012250510	MT-GLAZE 33K JA 1/16W
R7864	3012249316	MT-GLAZE 1K JA 1/16W
R7866	3012249316	MT-GLAZE 1K JA 1/16W
R7867	3012611014	MT-GLAZE 2.4K JA 1/16W
R7868	3013368818	MT-GLAZE 6.8K FA 1/16W
R7869	3012942811	MT-GLAZE 2.2K FA 1/16W
R7871	3012251210	MT-GLAZE 4.7K JA 1/16W
R7872	3012251210	MT-GLAZE 4.7K JA 1/16W
R7873	3012261516	MT-GLAZE 0.000 ZA 1/16W
R7874	3012261516	MT-GLAZE 0.000 ZA 1/16W
R7881	3012258110	MT-GLAZE 10 JA 1/16W
R7882	3012258110	MT-GLAZE 10 JA 1/16W
R7892	3012249019	MT-GLAZE 10K JA 1/16W
R7894	3012249019	MT-GLAZE 10K JA 1/16W
R7896	3012249019	MT-GLAZE 10K JA 1/16W
R7897	3012250619	MT-GLAZE 5.6K JA 1/16W
R7898	3012250619	MT-GLAZE 5.6K JA 1/16W
R7899	3012253818	MT-GLAZE 1.5K JA 1/16W
R8001	3012645316	MT-GLAZE 2.2 JA 1/10W
R8002	3012645316	MT-GLAZE 2.2 JA 1/10W
R8003	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8004	3012249415	MT-GLAZE 1M JA 1/16W
R8011	3012251210	MT-GLAZE 4.7K JA 1/16W
R8012	3012251210	MT-GLAZE 4.7K JA 1/16W
R8014	3012250312	MT-GLAZE 33 JA 1/16W
R8018	3012251210	MT-GLAZE 4.7K JA 1/16W
R8022	3012258110	MT-GLAZE 10 JA 1/16W
R8023	3012258110	MT-GLAZE 10 JA 1/16W
R8025	3012251210	MT-GLAZE 4.7K JA 1/16W

Key No.	Part No.	Description
R8026	3012251210	MT-GLAZE 4.7K JA 1/16W
R8029	3012645316	MT-GLAZE 2.2 JA 1/10W
R8035	3012250312	MT-GLAZE 33 JA 1/16W
R8037	3012250312	MT-GLAZE 33 JA 1/16W
R8038	3012250312	MT-GLAZE 33 JA 1/16W
R8039	3012250312	MT-GLAZE 33 JA 1/16W
R8041	3012250312	MT-GLAZE 33 JA 1/16W
R8042	3012250312	MT-GLAZE 33 JA 1/16W
R8043	3012250312	MT-GLAZE 33 JA 1/16W
R8044	3012250312	MT-GLAZE 33 JA 1/16W
R8046	3012250312	MT-GLAZE 33 JA 1/16W
R8047	3012250312	MT-GLAZE 33 JA 1/16W
R8048	3012250312	MT-GLAZE 33 JA 1/16W
R8049	3012251210	MT-GLAZE 4.7K JA 1/16W
R8051	3012249019	MT-GLAZE 10K JA 1/16W
R8052	3012248913	MT-GLAZE 100K JA 1/16W
R8083	3012942910	MT-GLAZE 560 FA 1/16W
R8084	3013388113	MT-GLAZE 1.2K FA 1/16W
R8085	3012249019	MT-GLAZE 10K JA 1/16W
R8086	3012943511	MT-GLAZE 27K FA 1/16W
R8087	3012942613	MT-GLAZE 4.7K FA 1/16W
R8088	3012995312	MT-GLAZE 12K FA 1/16W
R8089	4013441914	MT-GLAZE 10K DA 1/16W
R8097	3012251210	MT-GLAZE 4.7K JA 1/16W
R8098	3012249019	MT-GLAZE 10K JA 1/16W
R8099	3012249019	MT-GLAZE 10K JA 1/16W
R8151	3012249712	MT-GLAZE 22 JA 1/16W
R8152	3012248913	MT-GLAZE 100K JA 1/16W
R8153	3012249712	MT-GLAZE 22 JA 1/16W
R8154	3012248913	MT-GLAZE 100K JA 1/16W
R8156	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8158	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8159	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8201	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8202	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8203	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8204	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8205	3012640311	MT-GLAZE 1 JA 1/10W
R8207	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8208	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8209	3012253818	MT-GLAZE 1.5K JA 1/16W
R8212	3012250312	MT-GLAZE 33 JA 1/16W
R8213	3012250312	MT-GLAZE 33 JA 1/16W
R8214	3012251814	MT-GLAZE 47 JA 1/16W
R8216	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8218	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8219	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8221	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8222	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8223	3012250312	MT-GLAZE 33 JA 1/16W
R8224	3012250312	MT-GLAZE 33 JA 1/16W
R8226	3012250312	MT-GLAZE 33 JA 1/16W
R8227	3012250312	MT-GLAZE 33 JA 1/16W
R8228	3012250312	MT-GLAZE 33 JA 1/16W
R8229	3012250312	MT-GLAZE 33 JA 1/16W
R8232	3012249019	MT-GLAZE 10K JA 1/16W
R8283	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8284	3012992410	MT-GLAZE 5.6K FA 1/16W
R8286	4013441914	MT-GLAZE 10K DA 1/16W
R8291	3012995312	MT-GLAZE 12K FA 1/16W
R8292	3012943016	MT-GLAZE 10K FA 1/16W
R8293	3012249019	MT-GLAZE 10K JA 1/16W
R8301	3012249019	MT-GLAZE 10K JA 1/16W
R8302	3012251210	MT-GLAZE 4.7K JA 1/16W
R8303	3012249316	MT-GLAZE 1K JA 1/16W
R8304	3012249019	MT-GLAZE 10K JA 1/16W
R8312	3012249316	MT-GLAZE 1K JA 1/16W
R8314	3012249019	MT-GLAZE 10K JA 1/16W
R8316	3012249019	MT-GLAZE 10K JA 1/16W
R8319	3012248913	MT-GLAZE 100K JA 1/16W
R8321	3012249415	MT-GLAZE 1M JA 1/16W
R8322	3012251210	MT-GLAZE 4.7K JA 1/16W
R8324	3012942811	MT-GLAZE 2.2K FA 1/16W
R8341	3013025414	MT-GLAZE 220 FA 1/16W
R8342	3013025414	MT-GLAZE 220 FA 1/16W
R8343	3013410616	MT-GLAZE 49.9 FA 1/16W
R8344	3013410616	MT-GLAZE 49.9 FA 1/16W
R8346	6450931048	IMPEDANCE,120 OHM P
R8347	6450931048	IMPEDANCE,120 OHM P
R8348	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8349	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8351	3011506014	MT-GLAZE 0.000 ZA 1/10W
R8352	3013410616	MT-GLAZE 49.9 FA 1/16W
R8353	3013410616	MT-GLAZE 49.9 FA 1/16W
R8354	3012249712	MT-GLAZE 22 JA 1/16W
R8371	3012249019	MT-GLAZE 10K JA 1/16W
R8372	3012249316	MT-GLAZE 1K JA 1/16W
R8373	3012249019	MT-GLAZE 10K JA 1/16W
R8374	3012251210	MT-GLAZE 4.7K JA 1/16W
R8821	3012258110	MT-GLAZE 10 JA 1/16W
R8822	3012258110	MT-GLAZE 10 JA 1/16W
R8823	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8826	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8828	3012249019	MT-GLAZE 10K JA 1/16W
R8841	3012258110	MT-GLAZE 10 JA 1/16W
R8842	3012258110	MT-GLAZE 10 JA 1/16W
R8851	3012258110	MT-GLAZE 10 JA 1/16W
R8852	3012258110	MT-GLAZE 10 JA 1/16W
R9712	3012654912	MT-GLAZE 75 FA 1/10W
R9803	3012943511	MT-GLAZE 27K FA 1/16W
R9804	3012253818	MT-GLAZE 1.5K JA 1/16W
R9806	3012250213	MT-GLAZE 3.3K JA 1/16W
RB8001	9450490690	R-NETWORK 33X4 1/16W
RB8002	9450490690	R-NETWORK 33X4 1/16W
RB8003	9450490690	R-NETWORK 33X4 1/16W
RB8004	9450490690	R-NETWORK 33X4 1/16W
RB8005	9450490690	R-NETWORK 33X4 1/16W
RB8006	9450490690	R-NETWORK 33X4 1/16W
RB8007	9450490690	R-NETWORK 33X4 1/16W
RB8201	9450490690	R-NETWORK 33X4 1/16W
RB8202	9450490690	R-NETWORK 33X4 1/16W
RB8203	9450490690	R-NETWORK 33X4 1/16W
RB8204	9450490690	R-NETWORK 33X4 1/16W
RB8206	9450490690	R-NETWORK 33X4 1/16W
RB8207	9450490690	R-NETWORK 33X4 1/16W
SC1001	9450763503	SURGE-ABSORBER
SC1002	9450763503	SURGE-ABSORBER
SC3031	9450763503	SURGE-ABSORBER
SC3032	9450763503	SURGE-ABSORBER
SC3081	9450763503	SURGE-ABSORBER
SC3082	9450763503	SURGE-ABSORBER
X401	6451027696	OSC,CRYSTAL 32MHZ
X8001	9450887179	OSC,CRYSTAL 27.0MHZ
X8301	9450837556	OSC,CRYSTAL 25.0MHZ
A6801	**6103595436**	**ASSY,PWB,KEY MB2AC**
A2801	6451023773	UNIT,REMOCON RECEIVER
C2801	3034331112	CERAMIC 1U K 10V
C2802	3033800114	CERAMIC 47U M 6.3V
C2803	3032825118	CERAMIC 470P K 50V
C2811	3034093426	CERAMIC 0.1U K 16V
C6801	3034093426	CERAMIC 0.1U K 16V
D2801	3072089716	ZD UDZS-TE-175.6B
D2802	3072089716	ZD UDZS-TE-175.6B
D2811	4072597515	LED SMLE12BC7TT86
D2812	3072217119	ZENER DIODE UDZS-TE-1712B
D2813	4072646312	LED SMLE12Y8W T86
D2814	3072217119	ZENER DIODE UDZS-TE-1712B
D2816	4072646510	LED SMLE12V8W T86
D2817	3072217119	ZENER DIODE UDZS-TE-1712B

Key No.	Part No.	Description
D2818	3072224810	LED SML-521MUW T86
D2819	3072217119	ZENER DIODE UDZS-TE-1712B
D2821	3072217119	ZENER DIODE UDZS-TE-1712B
Q2811	3051739915	TR 2SC3928A1S
Q2812	3051739915	TR 2SC3928A1S
Q2813	3051739915	TR 2SC3928A1S
Q2814	3051739915	TR 2SC3928A1S
Q2816	3051739915	TR 2SC3928A1S
R2801	3012251814	MT-GLAZE 47 JA 1/16W
R2802	3012248814	MT-GLAZE 100 JA 1/16W
R2811	3012248814	MT-GLAZE 100 JA 1/16W
R2812	3012248814	MT-GLAZE 100 JA 1/16W
R2814	3012293913	MT-GLAZE 180 JA 1/16W
R2816	3012293913	MT-GLAZE 180 JA 1/16W
R2818	3012293913	MT-GLAZE 180 JA 1/16W
R2819	3012293913	MT-GLAZE 180 JA 1/16W
R2822	3012258011	MT-GLAZE 330 JA 1/16W
R2823	3012258011	MT-GLAZE 330 JA 1/16W
R2826	3012293913	MT-GLAZE 180 JA 1/16W
R2827	3012293913	MT-GLAZE 180 JA 1/16W
R6801	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6803	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6806	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6808	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6811	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6813	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6816	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6818	3012261516	MT-GLAZE 0.000 ZA 1/16W
R6821	3012261516	MT-GLAZE 0.000 ZA 1/16W
SW6801	9450262792	SWITCH,PUSH 1P-1TX1
SW6802	9450262792	SWITCH,PUSH 1P-1TX1
SW6803	9450262792	SWITCH,PUSH 1P-1TX1
SW6804	9450262792	SWITCH,PUSH 1P-1TX1
SW6806	9450262792	SWITCH,PUSH 1P-1TX1
SW6807	9450262792	SWITCH,PUSH 1P-1TX1
SW6808	9450262792	SWITCH,PUSH 1P-1TX1
SW6809	9450262792	SWITCH,PUSH 1P-1TX1
SW6811	9450262792	SWITCH,PUSH 1P-1TX1
A8801	**6103595467**	**ASSY,PWB,TEMP SENSOR1 MB2AC**
C8801	3034093426	CERAMIC 0.1U K 16V
C8911	3034093426	CERAMIC 0.1U K 16V
C8912	3033583215	CERAMIC 10U K 6.3V
C8913	3034093426	CERAMIC 0.1U K 16V
IC8801	4106312708	IC MCP9801T-M/SN
IC8911	4097061718	IC LIS331DLHTR
R8801	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8802	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8803	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8804	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8809	3012249019	MT-GLAZE 10K JA 1/16W
R8911	3012251210	MT-GLAZE 4.7K JA 1/16W
R8914	3012251210	MT-GLAZE 4.7K JA 1/16W
R8916	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8917	3012261516	MT-GLAZE 0.000 ZA 1/16W
A8811	**6103595474**	**ASSY,PWB,TEMP SENSOR2 MB2AC**
C8811	3034093426	CERAMIC 0.1U K 16V
IC8811	4106312708	IC MCP9801T-M/SN
R8811	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8812	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8813	3012261516	MT-GLAZE 0.000 ZA 1/16W
R8818	3012249019	MT-GLAZE 10K JA 1/16W
R8819	3012249019	MT-GLAZE 10K JA 1/16W

Key No.	Part No.	Description
A9701	**6103595481**	**ASSY,PWB,FANNET MB2AC**
C4751	3034093426	CERAMIC 0.1U K 16V
C701	3034093426	CERAMIC 0.1U K 16V
C7702	3034093426	CERAMIC 0.1U K 16V
C7703	3034093426	CERAMIC 0.1U K 16V
C7704	3034093426	CERAMIC 0.1U K 16V
C7705	3034093426	CERAMIC 0.1U K 16V
C7706	3034093426	CERAMIC 0.1U K 16V
D7702	3071490810	DIODE 1SS355-TE-17
D7703	3071490810	DIODE 1SS355-TE-17
D7704	3071490810	DIODE 1SS355-TE-17
D7705	3071490810	DIODE 1SS355-TE-17
D7706	3071490810	DIODE 1SS355-TE-17
L4751	6450923616	IMPEDANCE,22 OHM P
L4752	9450411978	INDUCTOR,330 OHM
L4753	6450923616	IMPEDANCE,22 OHM P
L4754	6450923616	IMPEDANCE,22 OHM P
L4756	6450923616	IMPEDANCE,22 OHM P
L701	9450411978	INDUCTOR,330 OHM
L702	6450923616	IMPEDANCE,22 OHM P
L703	6450923616	IMPEDANCE,22 OHM P
L704	6450923616	IMPEDANCE,22 OHM P
L706	6450923616	IMPEDANCE,22 OHM P
L707	6450923616	IMPEDANCE,22 OHM P
L7702	9450411978	INDUCTOR,330 OHM
L7703	9450411978	INDUCTOR,330 OHM
L7704	9450411978	INDUCTOR,330 OHM
L7705	9450411978	INDUCTOR,330 OHM
L7706	9450411978	INDUCTOR,330 OHM
R7702	3012249019	MT-GLAZE 10K JA 1/16W
R7703	3012249019	MT-GLAZE 10K JA 1/16W
R7704	3012249019	MT-GLAZE 10K JA 1/16W
R7705	3012249019	MT-GLAZE 10K JA 1/16W
R7706	3012249019	MT-GLAZE 10K JA 1/16W
SC001	9450763503	SURGE-ABSORBER
SC002	9450763503	SURGE-ABSORBER

Panasonic®

Schematic Diagram
Circuit Boards Diagram

Models **PT-CW230U**
PT-CW230E
PT-CW230EA
PT-CX200U
PT-CX200E
PT-CX200EA

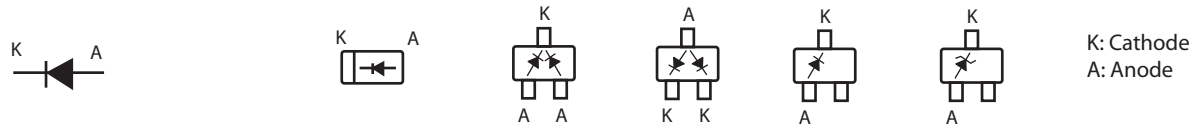
Impotant Safety Notice
Components identificated by the International symbol ⚠ have special characteristics impotant for safety.
When replacing any of these components, use only the manufacturer's specified parts.

■ COLD and HOT indications
The power circuit board contains a circuit area using a separate power supply to isolate the ground connection.
The cuicuit is defined by HOP and COLD indications in the schematic diagram. Take the precautions below.
This schematic diagram is the lated at the time of model production start and subject to change without notice.

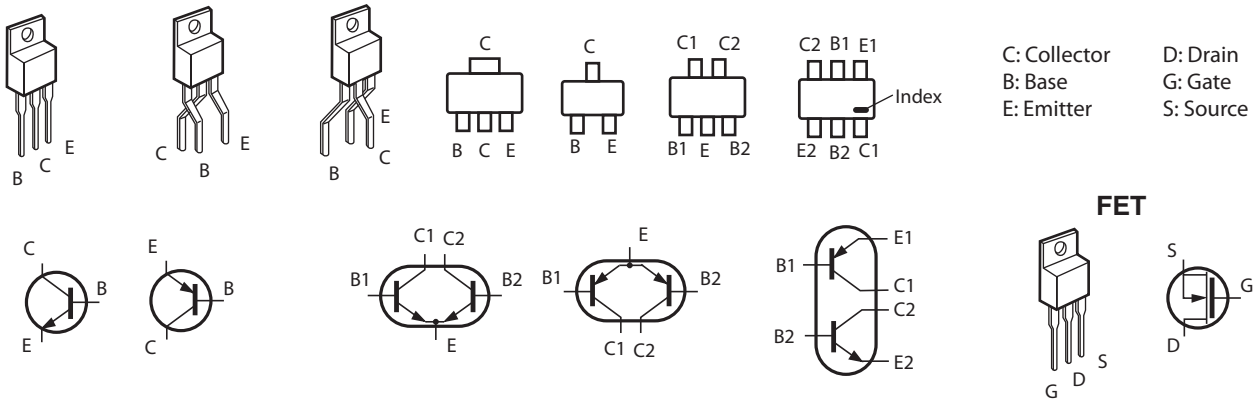
■ Precautions
NEVER touch the HOT part or the HOT and COLD parts at the same time, or you may get an electric shock.
NEVER short-circuit the HOL and COLD cuicuits, or the fuse may blow and the parts may break.
NEVER connect an instrument such oscilloscope to the HOT and COLD circuit simultaneously, or the fuse may blow.
Connect the ground of instruments to the ground of the circuit being measured.
MAKE SURE to unplug the power cord from the power outlet before removing the chassis.
When ording parts, please check the part number of the parts list.

Pin description of diode, transistor and IC

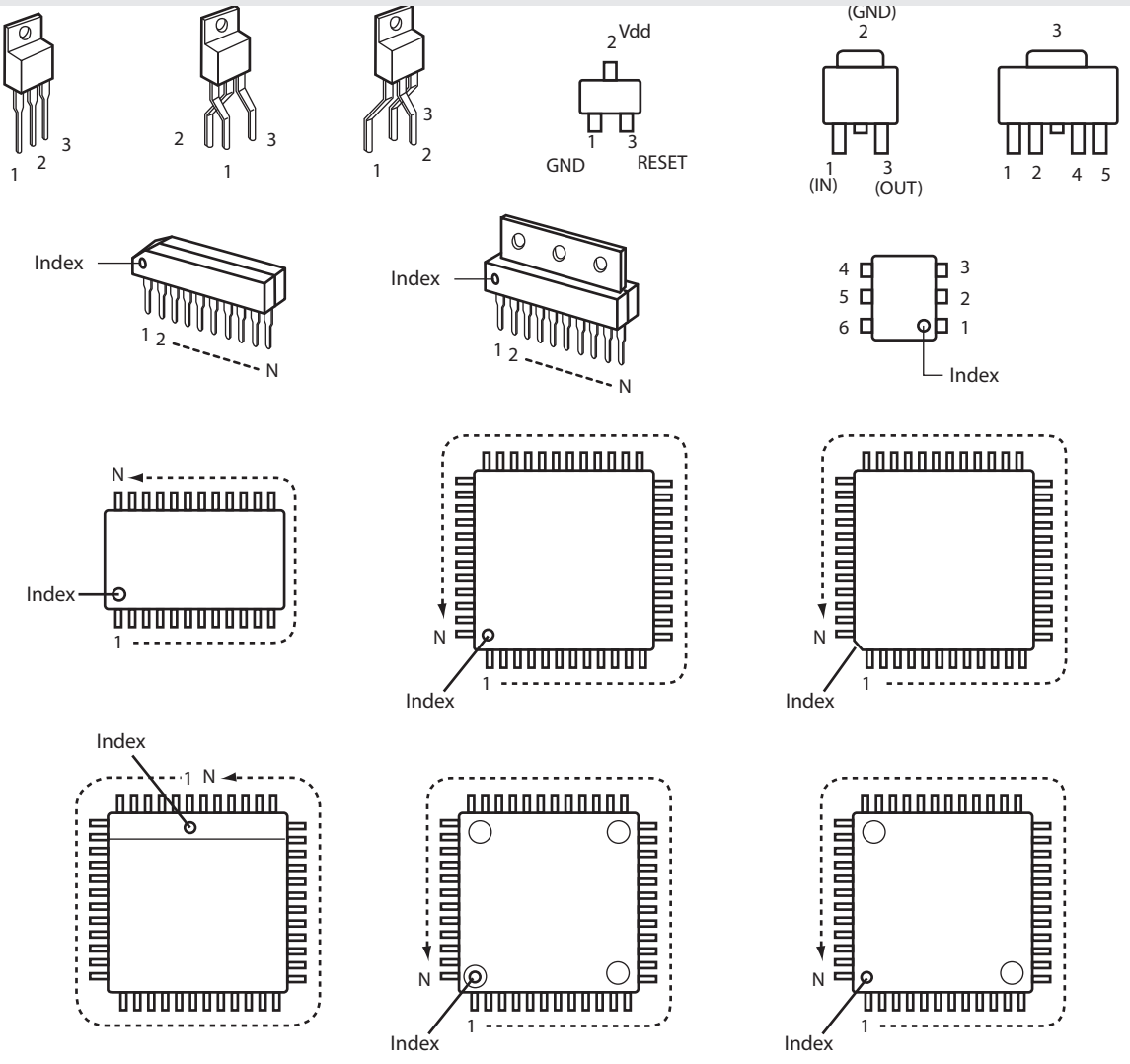
● Diode



● Transistor/FET



● IC



Schematic Diagrams

PROJECTION LENS

LP900

USHIO
METAL HALIDE LAMP
1AV4T30B12800
79V-3.5A

A901A
1AA4W30B50002

LAMP BALLAST

A901

Z47A&CN2
1AA86BFCA140Z

LINE FILTER

W901
AC CORD

AC100-240V

F.G.

SW902
K5B128YY002
THERMOSTAT FUSE
(SET TO OPEN AT 250V / 10A , 128℃)

K6A&CN1
1LB8W03BC014D

Z6D3&6C
1LB4W30B26600

CW

CW SENSOR

Z8CA67A
1AA8SATBE200Z

K40A

K35C

K8C

K8D

K8B

DMD MODULE

Z8B&97A
1AA9KBACA280Z

FAN NET

FAN Adj. Only

BALLAST

COVER SW

Z47B&SW
1LB8W02DA004-

SW901A
81L18K250

SW901B
81L19K250

SW901
1AV4S10B8270N

FN902
1AV4M10B50500
INTAKE FAN
OF LAMP (TOP PART)

FN903
1AV4M10B50501
INTAKE FAN
OF LAMP (BOTTOM PART)

FN904
1AV4MSB48102
EXHAUST FAN
OF LAMP

FN905
1AV4M10B50400
EXHAUST FAN
OF POWER BOX

FN906
1AV4M10B50502
INTAKE FAN
OF COLOR WHEEL

Z0D4A&SP
1LB9W03BG015E

SP901
1LB4410B12700
10W 8ohm
53X43-21

AUDIO

TO KEY UNIT

Z0T&68A
1AA9HDTCA300Z

KEY

POWER

POWER FACTOR CORRECTION

IC621
FA5550NG

IC631
MR4010-7101
P.F CONTROL

IC671
TA76L431FBP

HOT

COLD

Z6R&8A
1AA9CBGCM120Z

K8A

LAMPDC_ON

POWER_SW_A

ES18V

MAIN

K8F

FN901
1AV4M10B50400
INTAKE FAN
80X80X25

K8H

Z8H&88H
1AA94BGCB100Z

K88H

TEMP SENSOR2
(DMD)

K8E

Z8E&88E
1AA95AYBZ100Z

K88E

TEMP SENSOR1
(ROOM)

AV

K96A

K96B

Z96B&96A
1AA9HDTCA100Z

Indication of Signals

	Power Failure, Fan Failure Detection Signals - NO POWER when one of those signals detects a failure.
	Power Drive, Fan Drive Signals - NO POWER when one of those signals has a failure.
	Switch Signals [AV switch, Mute, etc] - NO PICTURE or NO SOUND when one of those signals has a failure.

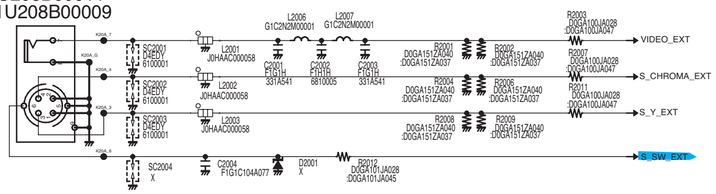
CAUTION

Components indicated by a mark ⚠ in this schematic diagram have the special significance in the safety. It is therefore, particularly recommended that the replacement of those parts must be made by exactly the same parts. Must be used with a specified fuse. Unauthorized substitutions may result in fire or accident.
This projector is isolated from AC line by using the internal converter transformer. Please pay attention to the following notes in servicing.
1. Do not touch the part on hot side (primary circuit) or both parts on the hot and cold sides (secondary circuit) at the same time.
2. Do not shorten the circuit between hot and cold sides.
3. The grounding lead must be connected to the ground of the same circuit when measuring the voltages and waveform.

K20A
K1U208B00011
:K1U208B00009

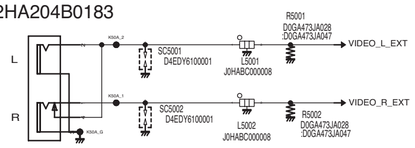
VIDEO

S-VIDEO



K50A
K2HA204B0183

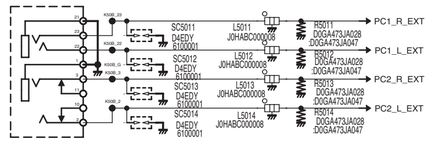
RCA AUDIO



K50B
K2HC206B0004
:K2HC208B0002
:K2HC208B0001

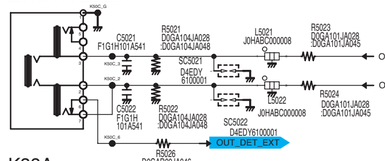
PC1 AUDIO

PC2 AUDIO



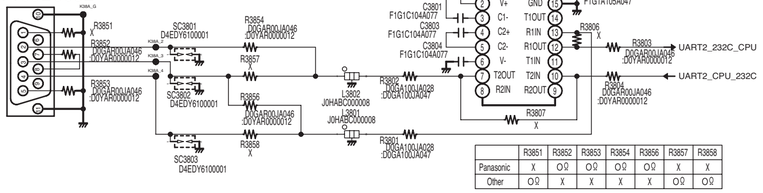
K50C
K2HC103B0093
:K2HC107B0005
:K2HC107B0006

AUDIO _OUT



K38A
K1FY109B0032

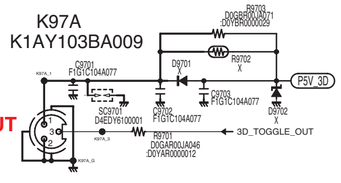
CONTROL PORT (RS232C)



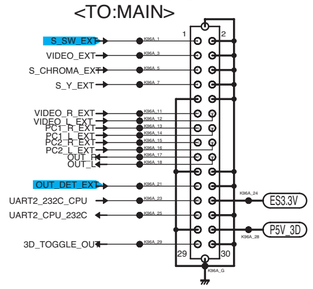
	R3851	R3852	R3853	R3854	R3856	R3857	R3858
Panasonic	X	○Ω	○Ω	○Ω	○Ω	X	X
Other	○Ω	X	X	X	X	○Ω	○Ω

K97A
K1AY103BA009

3D SYNC OUT



K96A
K1KA30B00078
<TO:MAIN>



MAIN "K96B"

IC3801 ICL3232ECV RS_232C DRIVE

A/V

INPUT1
RGB/
COMPONENT/
SCART
BLUE

IC4001
EL5306IU2

IC4021
TC7WH125FUK

SYNC OUT SW

IC8201

IC6202
TC74LVX4053FT

IC6201
24LC21A/SNP

DDC MEMORY

DDC BUS-SW

IC4051
TC7W53FUP

INPUT2
OUTPUT
RGB-IN/
RGB-OUT
BLACK

IC4011
TC74HC4053AFT

DDC BUS-SW

IC4031
RD74LVC14BTELL
;74LVC14APW,18

IC5151
TC7SZ125FUK

IC5081
TC7WD125AFK

IC5101
NJM1156AVM

AUDIO SW

AUDIO OUTPUT

IC001
LV49152V-EP

IC8151
PCM1754DBQRP

IC8201
2509209-0001

AD CONVRTETR

ANALOG FRONT END ASIC

AFE1000
(2509209-0001)

IC8281
BD7820FPP

IC401

HDMI

IC8001

"K10A"

IC8001
SII9127ACTUM

HDMI RECEIVER

A/V
"K96A"

IC8082
TA48S00AF

IC8081
TJ3965GRS

IC8071
XC6202P502MP

IC9711
TC7SZ125FUK

IC3821
TC7WH125FUK

IC3831
TC7WH125FUK

UART_SELECT FUNCTION	
RS-232C to MCU	LOW
RS-232C to DDP	HIGH

SCREW	
<SIDE A>	<SIDE B>
SCREW1	SCREW2
SCREW3	SCREW4
SCREW5	SCREW6
SCREW7	SCREW8
SCREW9	SCREW10
SCREW11	SCREW12
SCREW13	SCREW14

ON BOARD CONTACT	
L6 SIDE	L1 SIDE
TP001	TP005
TP002	TP006
TP003	TP007
TP004	TP008

MAIN-1

IC5851
TC7SH00FUP

IC5852
TC74VCX32FTP

PFAIL FUNCTION	
LOW	NORMAL OPERATION
HIGH	POWER-FAIL

IC8001
IC8201

OUTPUT DEVICE	OUTPUT BUSSES	INPUT DDP ASIC BUSSES
AFE1000	Blue	Red
	Green	Green
	Red	Blue
SII9127CTU	Red	Red
	Green	Green
	Blue	Blue

IC401
2509006-0002
<TOP_VIEW>

C1ABB0003675
DLP DATA PROCESSOR 2431 ASIC

DLP DATA PROCESSOR

IIC BUS FUNCTION	
SCL0/SDA0	CONTROL_AFE1000 (3.3V) AUDIO(5V)
SCL1/SDA1	EEPROM for DDP2431
SCL2/SDA2	THERMO SENSOR (INPUT 5.0V/3V) FAN CONTROL(5V)

IC1411
CY62157EV30LL
;IS62WV51216BLL

IC1401
S29PL127J60TFI1

SRAM

FLASH MEMORY

DMD MODULE

IC1491
TC7SZ125FUK

IC1492
TC7PA05FU

IC491
PST413A300NR

IC9801
TC7SZ125FUK

USB-B

TO IC401

FROM K8E

IC1431
24LC64T

<EEPROM>

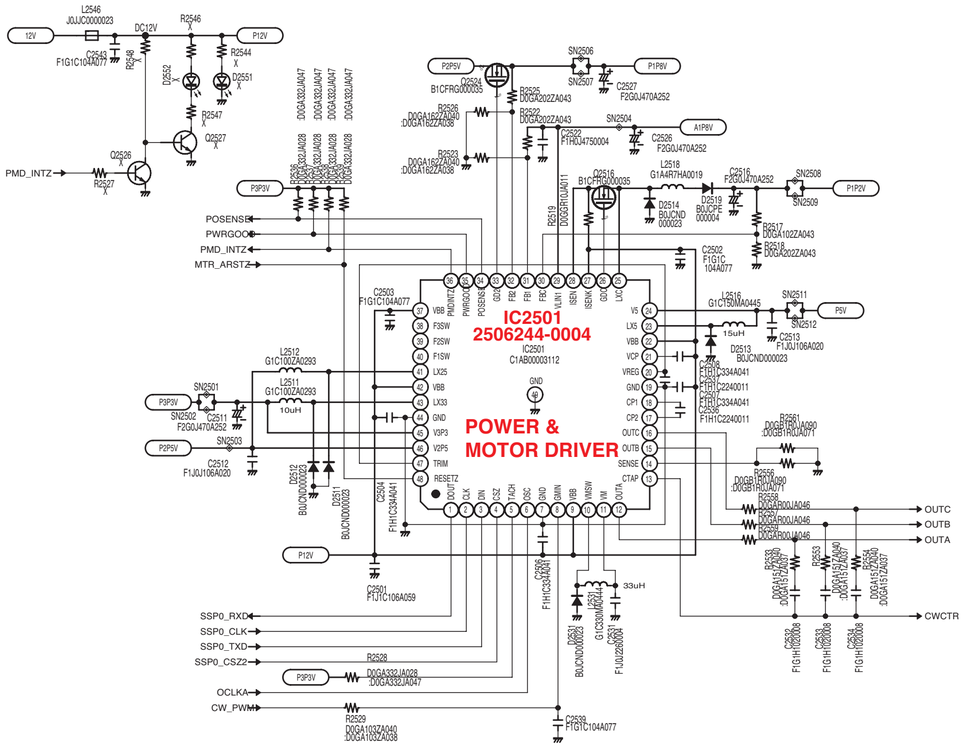
CONTROL MEMORY

IC1451
PQ1DX095MZPQ

IC1421
EDE5116AJBG
:A3R12E4JFF

DDR2 MEMORY

MAIN-2


IC2501
2506244-0004
IC2501
C1AB00003112
POWER &
MOTOR DRIVER
GND
12V
P12V
P3P3V
P2P5V
P1P8V
A1P8V
P5V
PMD_INTZ
POSENSE
PWRGOOD
MTR_ARSTZ
SSP0_RXD
SSP0_CLK
SSP0_TXD
SSP0_CSZ2
OCLKA
CW_PWM
OUTC
OUTB
OUTA
CWCTR
L2546
JOJJC0000023
DC12V
C2545
F1G1C104A077
R2546
R2548
R2544
D2552
D2551
R2547
Q2527
Q2526
R2527
L2512
G1C100ZA0293
L2511
G1C100ZA0293
10uH
SN2501
SN2502
F2GJ470A252
SN2503
C2512
F1JJ0106A020
D2512
BUJCND000023
D2511
BUJCND000023
C2504
F1H1C334A041
C2501
F1TJC106A059
SN2506
SN2507
C2524
B1CFRG000033
C2527
F2GJ470A252
R2525
D0GA202ZA043
R2522
D0GA202ZA043
SN2504
C2526
F2GJ470A252
C2520
F1H0J4750004
R2523
D0GA162ZA090
:D0GA162ZA038
R2526
D0GA162ZA090
:D0GA162ZA038
Q2516
B1CFRG000035
L2516
G1AAR7HA0019
C2516
F2GGJ470A252
SN2508
SN2509
D2514
BUJCND
000023
D2519
BUJCPE
000004
R2517
D0GA102ZA043
R2518
D0GA202ZA043
C2502
F1G1C
104A077
L2516
G1CT50MA0445
SN2511
SN2512
15uH
D2513
BUJCND000023
C2513
F1JGJ106A020
C2514
F1H1C2240011
C2515
F1H1C334A041
C2516
F1H1C2240011
R3561
D0GB1R0JA090
:D0GB1R0JA077
R3558
D0GB1R0JA090
:D0GB1R0JA077
R2558
D0GAR00JA046
R2557
D0GAR00JA046
R2556
D0GAR00JA046
R2538
D0GA152JA037
R2553
D0GA152JA037
R2554
D0GA152JA037
C2532
F1G1H102B008
C2531
F1G1H102B008
C2534
F1G1H102B008
C2533
F1G1H102B008
R2528
D0GA333JA028
:D0GA332JA047
R2529
D0GA103ZA040
:D0GA103ZA038
C2539
F1G1C104A077
L2531
G1CT50MA0445
D2531
BUJCND000023
D2532
B1CFRG000035
L2531
G1C330MA0044
F1J0J226B003
C2531
F1J0J226B003
C2536
F1H1C334A041
C2537
F1H1C334A041
C2538
F1H1C334A041
C2539
F1H1C334A041
R2536
D0GA332JA028
:D0GA332JA047
R2537
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R2535
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R2519
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R2521
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R2522
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R2523
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R2540
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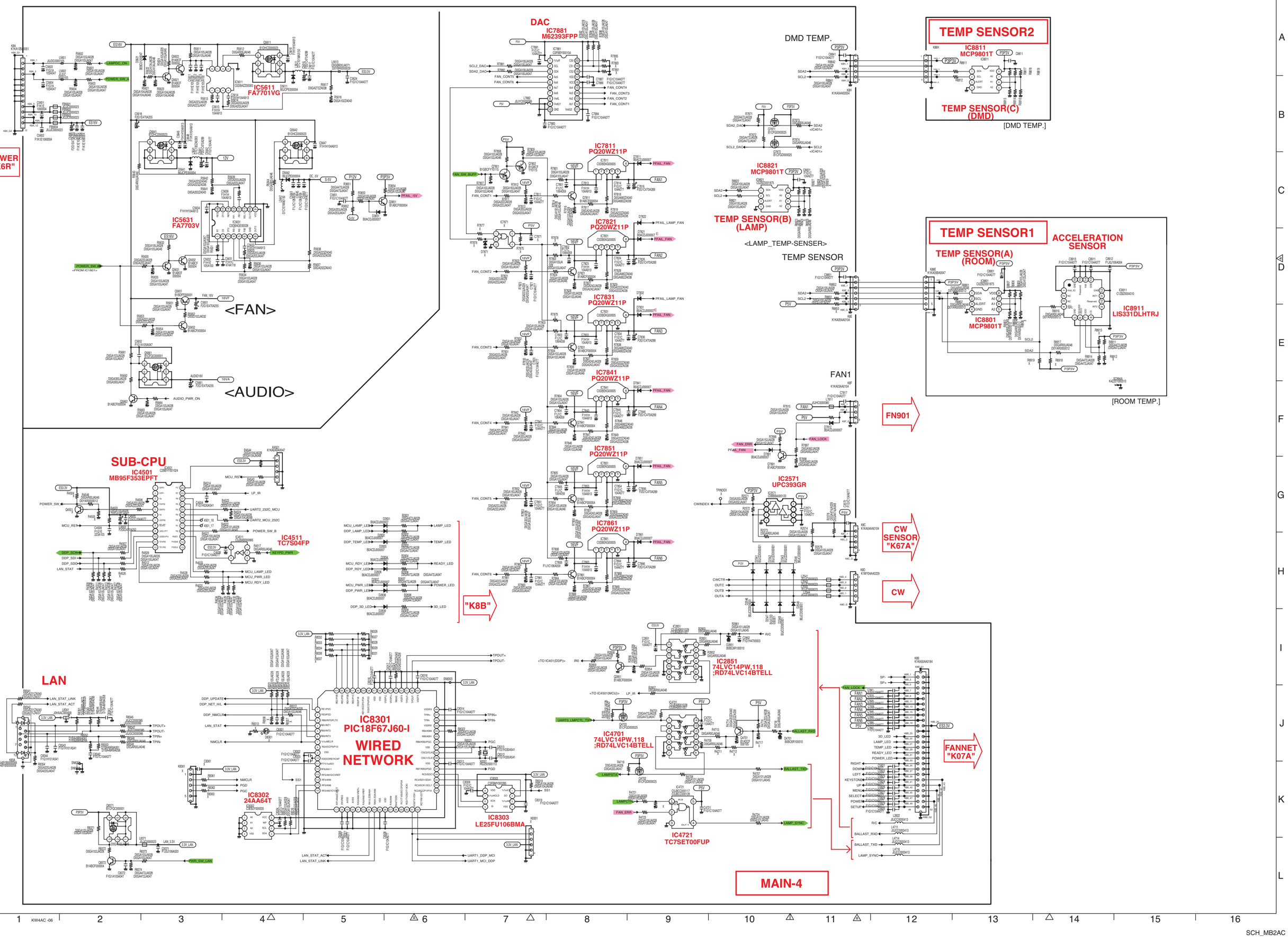
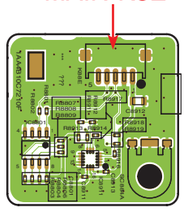

POWER "K6R"
<FAN>
<AUDIO>
IC5611 FA7701VG
IC5631 FA7703V
DAC
IC7881 M62393FPP
IC7811 PQ20WZ11P
IC7821 PQ20WZ11P
IC7831 PQ20WZ11P
IC7841 PQ20WZ11P
IC7851 PQ20WZ11P
IC7861 PQ20WZ11P
"K8B"
DMD TEMP.
TEMP SENSOR2
IC8811 MCP9801T
TEMP SENSOR(C) (DMD)
[DMD TEMP.]
IC8821 MCP9801T
TEMP SENSOR(B) (LAMP)
<LAMP_TEMP-SENSER>
TEMP SENSOR
FN901
TEMP SENSOR1
ACCELERATION SENSOR
TEMP SENSOR(A) (ROOM)
IC8801 MCP9801T
IC8911 LIS331DLHTRJ
[ROOM TEMP.]
FAN1
IC2571 UPC393GR
CW SENSOR "K67A"
CW
SUB-CPU
IC4501 MB95F353EPFT
IC4511 TC7S04FP
LAN
IC8302 24AA64T
IC8303 LE25FU106BMA
IC8301 PIC18F67J60-I
WIRED NETWORK
IC2851 74LVC14PW,118 ;RD74LVC14BTELL
IC4701 74LVC14PW,118 ;RD74LVC14BTELL
IC4721 TC7SET00FUP
FANNET "K07A"
MAIN-4

Printed Wiring Board Drawings

TEMP SENSOR 1 (SIDE:A)

MAIN“K8E”



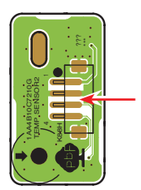
TEMP SENSOR 1 (SIDE:B)

⚠ CAUTION

This projector is isolated from AC line by using the internal converter transformer.
Please pay attention to the following notes in servicing

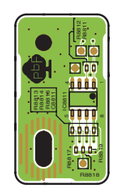
1. Do not touch the part on hot side (primary circuit) or both parts on hot and cold sides (secondary circuit) at the same time.
2. Do not shorten the circuit between hot and cold sides.
3. The grounding lead must be connected to the ground of the same circuit when measuring of voltages and waveforms.

TEMP SENSOR 2 (SIDE:A)



MAIN
“K8H”

TEMP SENSOR 2 (SIDE:B)



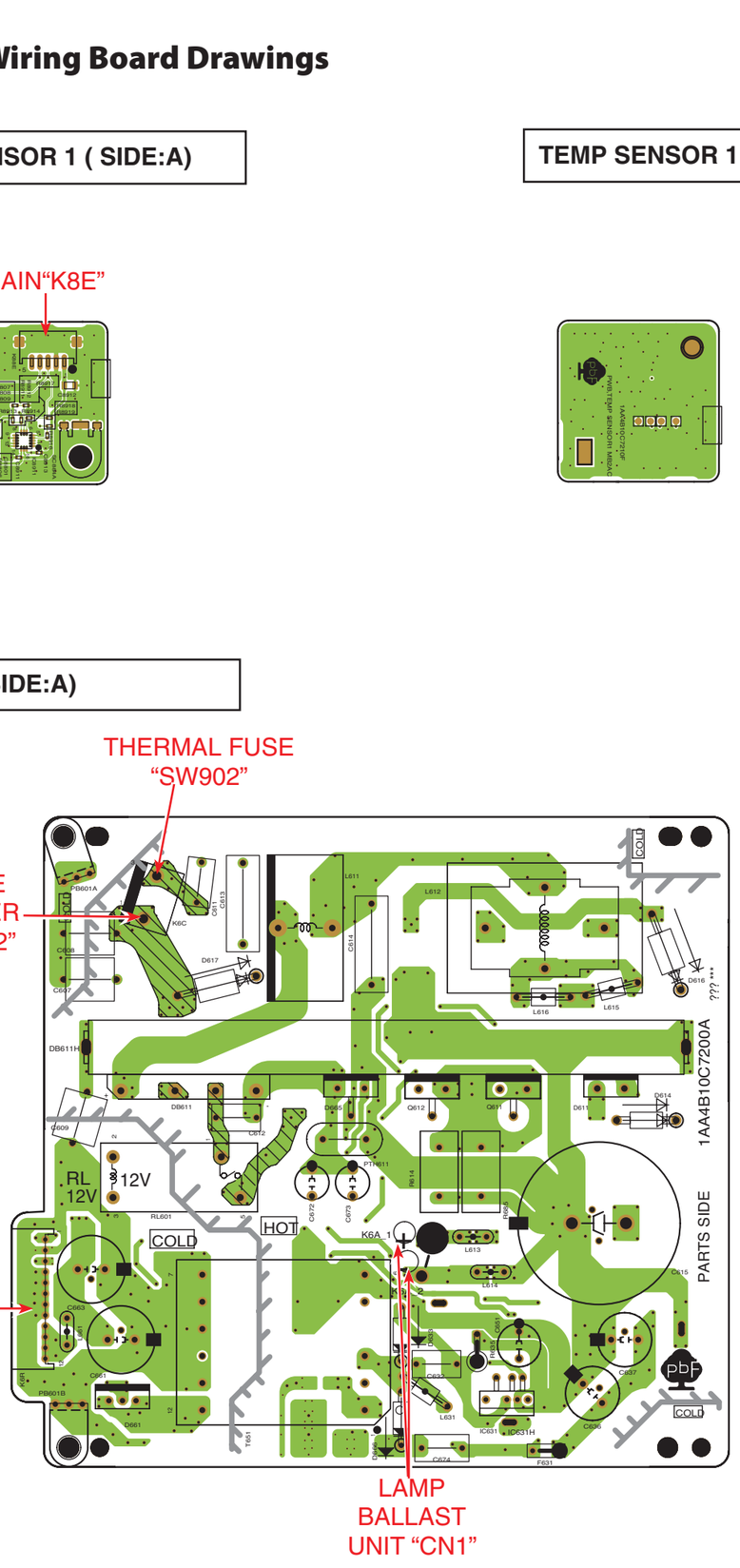
POWER (SIDE:A)

THERMAL FUSE
“SW902”

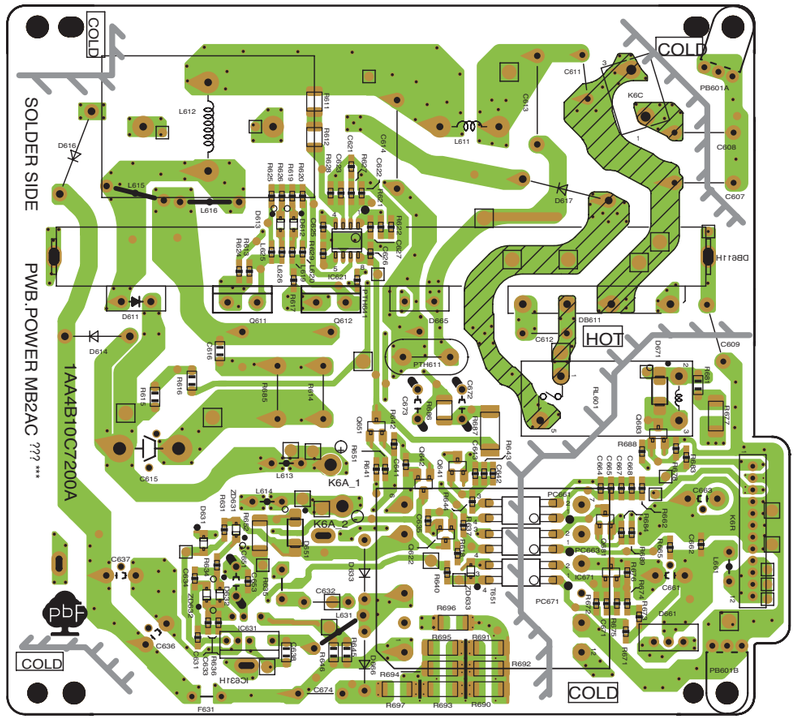
LINE
FILTER
“K602”

MAIN
“K8A”

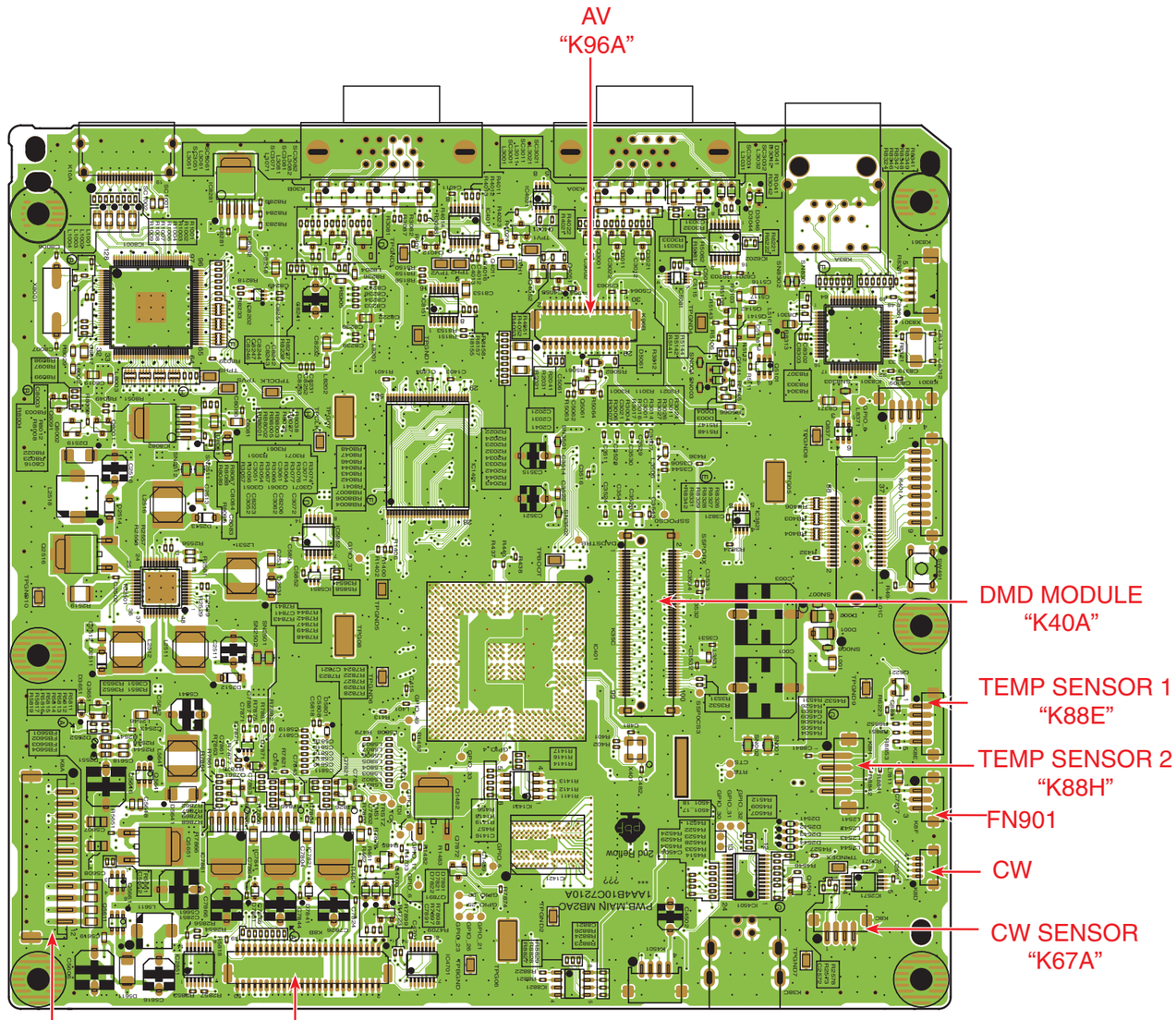
LAMP
BALLAST
UNIT “CN1”



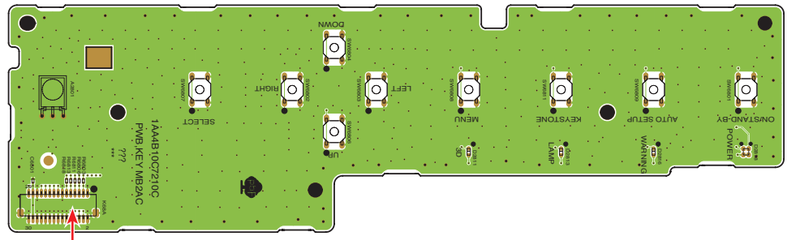
POWER (SIDE:B)



MAIN (SIDE:A)

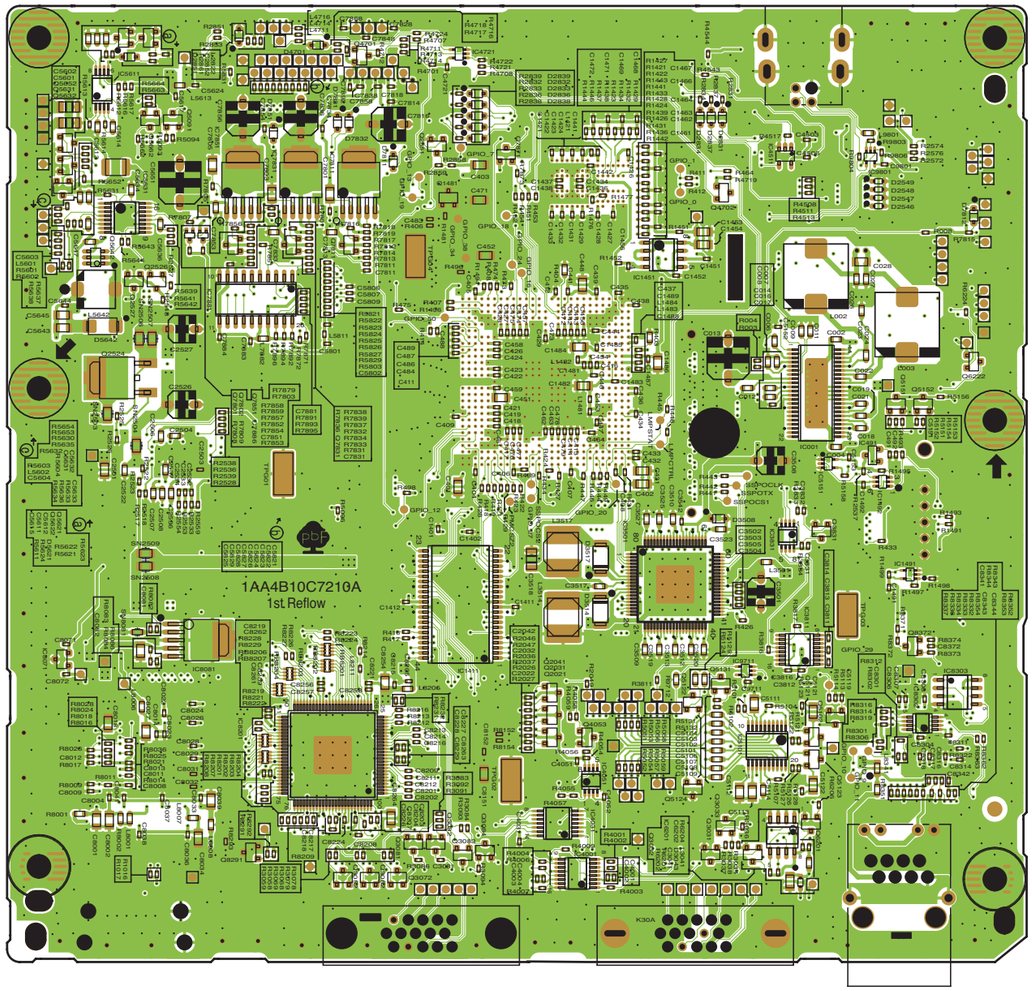


KEY SW (SIDE:A)

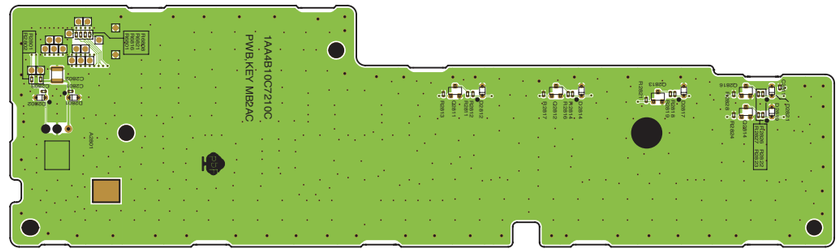


AV (SIDE:A)

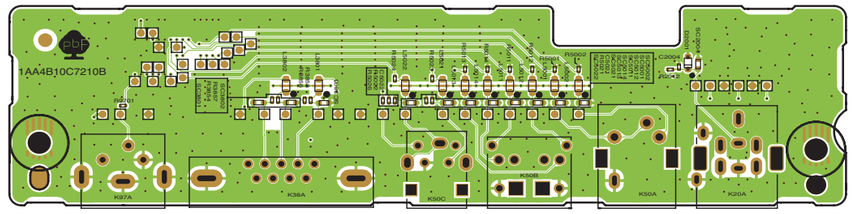
MAIN (SIDE:B)



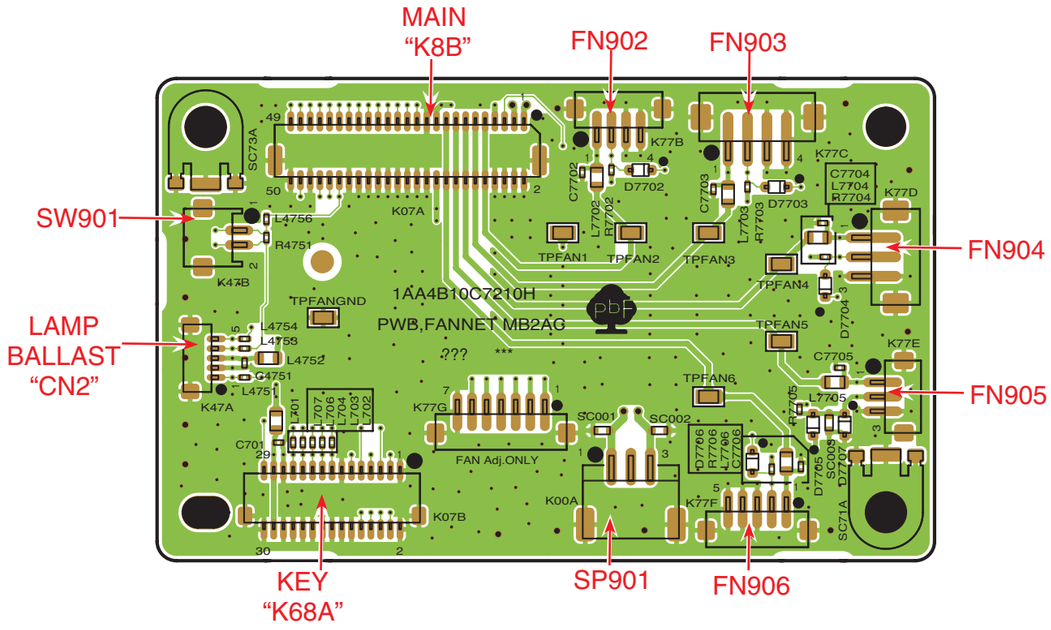
KEY SW (SIDE:B)



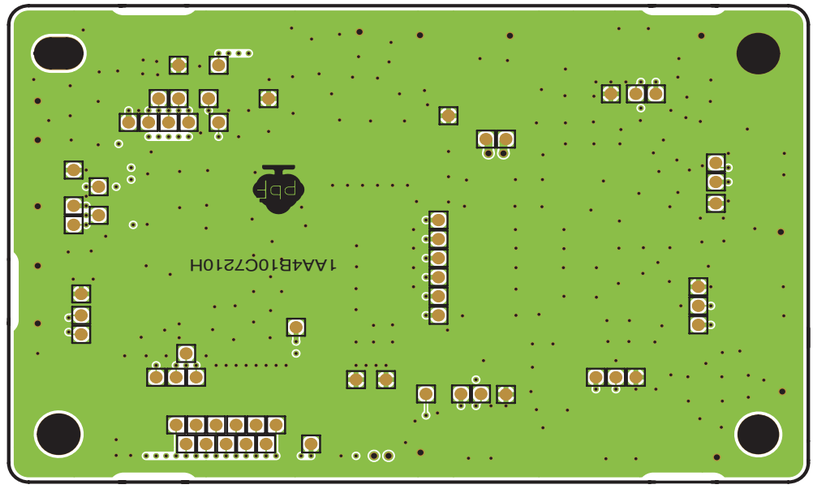
AV (SIDE:B)



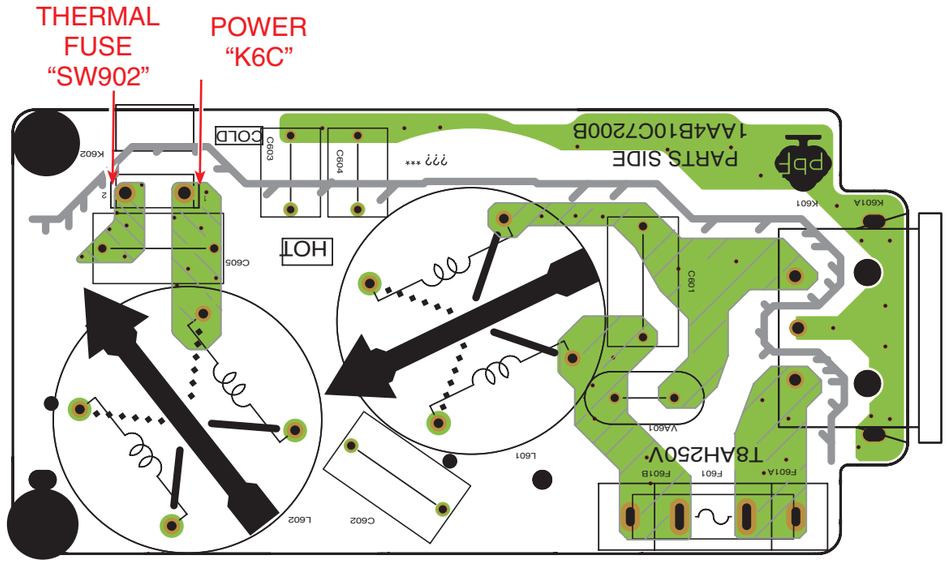
FAN NET (SIDE:A)



FAN NET (SIDE:B)



LINE FILTER (SIDE:A)



LINE FILTER (SIDE:B)